SEQUENCE LISTING

SEQ ID NO: 1 (MOUSE GCR1/FRAGILIS NUCLEIC ACID)

Mouse GCR1 (Fragilis) full length nucleotide sequence

GCCGCAGAAAGGGCAGACCCGCAGCGCGCTCCATCCTTTGCCCTCCAGTGCTGCCTTTGCTCCGC
ACCATGAACCACACTTCTCAAGCCTTCATCACCGCTGCCAGTGGAGGACAGCCCCCAAACTACGA
AAGAATCAAGGAAGAATATGAGGTGGCTGAGATGGGGGCACCGCACGGATCGGCTTCTGTCAGAA
CTACTGTGATCAACATGCCCAGAGAGGTGTCGGTGCCTGACCATGTGGTCTGGTCCCTGTTCAAT
ACACTCTTCATGAACTTCTGCTGCCTGGGCTTCATAGCCTATGCCTACTCCGTGAAGTCTAGGGA
TCGGAAGATGGTGGGTGATGTGACTGGAGCCCAGGCCTACGCCTCCACTGCTAAGTGCCTGAACA
TCAGCACCTTGGTCCTCAGCATCCTGATGGTTGTTATCACCATTGTTAGTGTCATCATCATTGTT
CTTAACGCTCAAAACCTTCACACTTAATAGAGGATTCCGACTTCCGGTCCTGAAGTGCTTCACCC
TCCGCAGCTGCGTCCCTCCTTGCCCCTCCCTACACGCAGGTGTAACACTCATTTATCTATCCACA
GTGGATTCAATAAAGTGCACTTGATAACCACC

SEQ ID NO: 2 (MOUSE GCR1/FRAGILIS AMINO ACID)

Mouse GCR1 (Fragilis) amino acid sequence

MNHTSQAFITAASGGQPPNYERIKEEYEVAEMGAPHGSASVRTTVINMPREVSVPDHVVWSLFNT
LFMNFCCLGFIAYAYSVKSRDRKMVGDVTGAQAYASTAKCLNISTLVLSILMVVITIVSVIIIVL
NAQNLHT

SEQ ID NO: 3 (MOUSE GCR2/STELLA NUCLEIC ACID)

Mouse GCR2 (Stella) full length nucleotide sequence

GGATCACAGACTGACTGCTAATTGGGTCTTGGTTTTAGGTCTTTTCAAAGACTAAGCAATCTTGT
TCCGAGCTAGCTTTTGAGGCTTCTGCCCATCGCATCGCCATGGAGGAACCATCAGAGAAAGTCGA
CCCAATGAAGGACCCTGAAACTCCTCAGAAGAAAGATGAAGAGGACGCTTTGGATGATACAGACG
TCCTACAACCAGAAACACTAGTAAAGGTCATGAAAAAGCTAACCCTAAACCCCGGTGTCAAGCGG
TCCGCACGCCGGCGCAGTCTACGGAACCGCATTGCAGCCGTACCTGTGGAGAACAAGAGTGAAAA
AATCCGGAGGGAAGTTCAAAGCGCCTTTCCCAAGAGAAGGGTCCGCACTTTGTTGTCGGTGCTGA
AAGACCCTATAGCAAAGATGAGAAGACTTGTTCGGATTGAGCAGAGACAAAAAAGGCTCGAAGGA
AATGAGTTTGAACGGGACAGTGAGCCATTCAGATGTCTCTGCACTTTCTGCCATTATCAAAGATG
GGATCCCTCTGAGAATGCGAAAATCGGGAAGAATTAGGAGCTTACATTGTACGCTGCCCTGGCTG
TCGACGATGCCGCACAGCAGATGTGAAAGCTATTTTTTGTTTAAGATTAAACTTTTTCTGGTGCT
GGGAAATCTTAACTTGTTAACCTTTAAATTGTAGATAGGATGCACAACGATCCAGATTTATGTGA
AGTTTAGAAGCCTCAAGCTGTGAGGCCCAGGGCTGAGGAATAAAGTAAATAGAATTTGGAGTATG
TACGTTCTAATTTCCAGAAATTTGTAATAAAAGCATTTTTGTT

SEQ ID NO: 4 (MOUSE GCR2/STELLA AMINO ACID)

Mouse GCR2 (Stella) amino acid sequence

MEEPSEKVDPMKDPETPQKKDEEDALDDTDVLQPETLVKVMKKLTLNPGVKRSARRRSLRNRIAA
VPVENKSEKIRREVQSAFPKRRVRTLLSVLKDPIAKMRRLVRIEQRQKRLEGNEFERDSEPFRCL
CTFCHYQRWDPSENAKIGKN

SEQ ID NO: 5 (RAT GCR2 HOMOLOGUE NUCLEIC ACID)

Rat GCR2 (Stella) homologue genomic sequence; similar intron-exon structure as mouse-Stella. AC094826 contig No.5 (22671 - 27595: contig of 4925 bp in length)

CCCCCCCCCCCCCCCCCCCCCCTCCCCCCCCCCCCCACCTCCGACGTATGATGGCTCCTAGACGCA
ACACGAAGCGGACTCCCCGCATCATTCACGTAGACCCGCCTTCTGCTTTCCCTGTCGGGGTTTTG
GGAAGCCCGGCGGCCCTCTCTTCTCACCTTGCTCCACTAGCACGCGGCTGTTTTCACTGAGCCCA
GCACTGGCTAAGTGGAGCACCAGGAGTTTCAGGCTATCCTTCAGAGGGCAAGGTGTAGTCCATGG
TGGGCTACAGGAGACCCTCTCTCTCCGTGAGTACAGAGAGGCAAACCCAAGCCAGACAGGGGTGA
TGATTAGGAACATACCTTCGTCGGGGAGAAAATACCGGTTCATATAGGAATAAGAGGAACCAGGA
GGTAGTTAAGGCTGTGGTGTCTGGTTGCGGGGTTTTTGACTCTCAACAACCACGTTCAGAACGTG
CTGAGTTTTTATGATGGTGTAGAATTTCCTTATCAGCAATTGGTCTCCGCGGTGTTTCTTTTTCT
TTTTTAATTTTTTAAGTATAATTTGGTGTTTGAAGCAACTGTACTTGGACTAGAACTCCCTGTGT
AATCCAGAATGGAATCCCAAATCCTAGGATTAAAGGTTTTAGTGGGCTGCAGTGTTGGGTGGGGG
TTGTTTTGATTACGTTGTAGCCCAGGCTGGGCTCAATCTCAATCCTCCTGCCTCTGCCTTCTAAA
CGCTAGGATTAAAAGTGCTGCGCCATGATCCTGCTGTAGCTTTATTTTTATTTATTTATTTATTT
ATTTTGGCTCTTTTTTTTTGGAGCTGGGGACCGAACCGAGGGCCTTGTGCTTCCTAGGCAAGCGC
TCTACCACTGAGCTAAATCCCCAACCCCAGTGTAGCTTTATTTTTAAGAACAGGAGTCTTGTTTC
TCAAAACAGTTTCTCTGTAGCCCTGGTTGTCCTGGAACTCCGTAAACCAGGCTGGTTTGGGACTC
TGCCTTTAAAACACTGGGACTAAAGGCGGTACCACCTCCGTGGGCTACACCGGAATCTTTTAAGC
TTCATTTGAACCGGGGCTTTTTCTTTTTCTCACCCACTTTCTGGAAGCGATTTTCCTGCTAAATT
TCCATTCCTGGTAAATGACTCTGAGGGGAAATAGGAACCCAGAATAGATTGAGCCGGGGGCTACC
TGGGACCCCGCACTCCCCACCCCCCAGCCGCTGTTGAAGCTCTTTGCCTGAGGGGCCTCCGGGTT
TGATACCTCCTAGCACTCCGGGCTGAGGGCGTGGCTCGGGAGGAGCCATTCCTTTGGAGAGGAAA
ACAACTGCTGGCCTTGAATCTGCCCTAATACCTGACAGTTACATGGGACCTCCTTATTTCCACAG
GATTCTTTAGTCTTTGTTTGGGAGATTTTCAAATCTTGAGACTGCTCAACCCTTCCTGGCCTAAC
ACTCACAAGGCCAGGCTAGACCCAAATTCTGTCAACCCCTTCTGTGTCCAAAACGGTGGGTGGCT
AGCTGGCTCACCCTTGGTGTCACTTTGCTTTAACATTCGGAAAAGTTGTGGTAAGTTTCCTGTAT
AAAATAGGACCATCTACTGGGTGTGGTCCCATGTAAAGCAAGGTTGGTTTCCCAAAATACCCTGT
TTACATAGATGTCCGGAAGCATTGGAGCAGGTCAATTAGATTTAGGTGGAAACAGCCTGTTTTTG
GAAAGCTTTCCAGGGCGGAAAATGAACCCAGAGGCACTATTGGGCAAGCCCTCCGGCTAAGCAAC
ACAATTGGCTGCAGGGGTCTCTGGAAGAGGTGTGAGACAAGAGAGAATATGCAGGTTTCAGGACC
TCTGAACTAGAGTTAGGCTGCTGTAACATTGTAACATTGCTGTAAGCAGAACAGCCCATGGTAAG
AAGCTCAGTGGATCTCTACAAACACTAGGATATCTGCTCAGGGTTTATGACCAGGCCCTGTGCAT
ATGGTTTGCTTCTTGTTGGCCCCTCTCTTGAAGAGGGGTGATTATCTGTTACCCACTTCCTTGTT
TCTCTGGGGTATTACCTTGCAAAATGCAAAATGATATACTTCACTAATGTCTCCATCTTCTGTTT
CAGAAATCCTACAACCAGAAACACTAGTAAAGGTCATGAAAAAGCTAACCCTGAACCCCAGTGCC
AAGCCGACAAAATATCATCGTCGTCAAAGGGTTCGTCTCCAGGTTAAGAGCCAGCCTGTGGAGAA
CAGAAGTGAAAGAATCATGAGGGAAGTTCAAAGCGCCTTTCCCAGGAGAAGGGTCCGCACTCTGT
TGTCCGTGCTGAAAGACCCCATAGCAAGGATGAGAAGATTTGTTCGGGTGAGTTGCGTTTGTGGG
CGGGGCATAGATCTAAGAGCAACTCTAGCCTCAGGAATGGCACCTAGGTTAAACAGGGAATGTAG
ACAAGGATAGTGACTACCTGTGATTCCCAGCTCAAGAAAACAAGCTCCAAGGCTATCCTCTACTG
CGCAGTCTGAAGCTGGCCAGAGCTATATGCAAATTGATAAGTCAGTATAACATTTATTTTTGGAT
TTTCAGACTCCCTCCCCATAGTCCAAACTGGCCCTCCAGTTCAGTCCACGGTCCTGCTTCTTCCC
CGGTGCTAGGCTTTTGAGTGATAAGGCTGACTTAGACTGGATCTCAGAGCTGAAGTGGACCTGTT
AGTCTTTGTAGACCAGGCTGGGGTGGTTTCTGCTTTCTCAGCGCCTAGCTCACATAGTAGGCATT

TTAACTTTGTCTTAATAGTAATTTGAGTAATTTTGTTTTTCTCTTGAAGATTGAGCAGAGACAAA
GACAGCTTGAAGGAAATGAGGTAAATGCATATGGATGGGTAGGGTGTCTATGGATGGGTAGGGTG
TCTTGTTTTTACTGTTTCCTTAGACAAGGAGTGTGTATGTGGAGAGTTACCTTCTCAACACAGGG
AATCTGGTTATTAAAGCAGTACTTTAAAAATAAATAAAATAAATAAAATAAAAATAAAGCAGTAG
AAGGGGATTTACATTTCTTTTGAGTTGCAATATCCTGATTAACATTTTTCTTTCAGAGACGAGAT
GAGCCATTCAGATGTCTCTGCACTTTCTGCCATTATCAGAGATGGGATCCTTCTGAGAATGCTAA
AATCGGGCAGAACCAGAAGAATTAGGGCAGTTTGAATTGTACACCGTCCTTGCCGTTAACGGTGC
CATGCAGCAGATGTGAAAGCTGTTTTTTTGTTTAAGATTAAACTTTTCTTGGTGCTGGGGAAATC
TCTTCTAATTGCTAACCTTTAAATTATATAGGATGTGTGACATTTGGATTCATGGGAATGACAGA
TTTACCCAAGAATTGAGCATGAGTCAAAGCCTGGTAGTTTGATTTAGAAGGTAATTGGAATAAAT
CTTTTTATTTTAGATTTTCTAGTTTGCAGAGAAATTTGTAATAAAGGCAAATTTGTTATCTTTAA
TAAATACAGAACAGATTAGAATGAGCCATTGGAGATGGGGGACTCGTTTTTTACAGGTGCATGTG
TGGGTGTGTGATGTTCAGAGTTCAATGTGTGCTACCCTGTATTTCTGCTTGAGGCAAGGTCTCCA
TGAGGCCTAGCTGGTCTAACTCCTGGTCCTGCCTTTTGTTTTCCCCTGAGTTTTGACACCATAGG
CTTGTCGGCAAGATCTGGAAGAGGCTTGATGTTTGTGTTTGTGCTGTGTAATAAACAATTGGTTG
ACATATTCCTAAAGTGTGGCACTGTATTGACCTGTCTGTCTCATGAGGAAGTTAATGACCGGAGC
ATAATTGTATGCTTTATTTCCTGAGAGAAGTGTCAGGAAAGGAGGAGTTAGGAAGAAAGCCCCAG
GCTGGGGTTAAGAGCACTGGCTGCTTTTCCAGAGGTCCTGAGTTCAATTCCCAGCAATCACCTGG
TGGCTCCCGAACATCTGTAACAGGATCCAATGCCCTCTTTTGGTGTGTCTAAGAACTCCCTAGGC
ATGCAGAGGATTTTTGTTTTTGTTTTTTTTTTTTTTTTTTTTTTTTTTTCGTTTTTTTCAGAGCTGG
GGAACCGAACCCAGGGCCTTGCGCTTGCTAAGCAAGCGCTCTACCACTGAGCTAAATCCCCAACC
CCTACAATGGCCTTTTTCTACCTGCTTTTGAATTATCAATAAAAGACTGGGGCAAAAGAAAGGCT
GGAGTGAATGAGAGAGAACATGTGAAGAGTAAATGAGAGAGAGCATGAGGGAATGAATGAGAGAG
TGAATGTGAGAACGAATGTGAGAGCGAGTGAGAGAACATGAGAAGAACACGTTAAGAGTGAGTGA
AGAGAGAATGTGAGGTGTGTATGAAGATTGTGTGTGGGGTTGGGGATTTAGCTCAGTGGTAGAGT
GCTTGCCTAGGAAGCACAAGGCCCTGGGTTCGGTCCCCAGCTCCAAAAAAAAGACCCAAAAAAAA
AAAAAAAAAAAAAGATTGTGTGTGTGTGTGAAAGGAGAGTGCATGTGGTGTGTGTGAGATATGTG
CAAGGTGTGTATCAAGAGTGTGTGTGAGAGTGAAAGGGTAATGAACAGAGGTGTGCATGAGCGTG
GGAGTTTGAGAAAAGAAAACAGCAATAAAAAAAAAAGCAGAGTGCACGAGAGAATGCAGAGTGTG
TGCAACCTCAAGCTGAGACAGAGACAGAGAGAAAGAGAGAGAGAGAGAGAGACTTTAAGCCTTGA
AATTACCTGTCAGTTTGTACCCAAATAGTAGTCTGTGTATATTTATTTTGAGCCTTCCAGATCCC
TGCTTCCAGTGGAGAACTCTGATTCTATGTTGAGGCTGGACCCTGGCAATAGTGGGCTTCTTGAA
AAATAGTCAAAGGAAACAGTGCTACACCATGGACTTAAGCCTTTAGACTCAGTTCTGGCTTCAAG
AGCAGCTGTCAGAAAATAAGTGATGAACTACTTGCAGTCGAACTCGAATC

SEQ ID NO: 6 (RAT GCR2 HOMOLOGUE NUCLEIC ACID)

Rat GCR2 (Stella) homologue genomic sequence; different intron-exon structure from mouse-Stella (fused exons). AC097234 (131006 132449: contig of 1444 bp in length)

CCAGGATTCAGACGAGCTAGGCCTCATGCATGGAGACCTTGCCTCAAGCAGAAATAAACAGGGTA
GCACACATTGAACTCTGAACATCACGAGTGTGCACACACCCACACATGCATCTGTAAAAAACGAG
TCCCCATCTCCAATGGCTCGTTCTAATCTGTTCTGTGTATTTATTAAAGATAACAAATTTGCCTC
TATTACAAATTTCTCTGCAAACTAGAAAATCTAAAATAAAAGATCTATTCCAATTACCTTCTAAA
TCAAACTACCGGGCTTTGACTCATGCTCAATTCTTGGGTAAATCTGTCATTCCCATGAATCCAAA
TGTCACACATCCTATATAATTTAAAGGTTAGCAAGTAGAGATTTCCCCAGCACCAAGAAAAGTTT
AATCTTAAACAAAAAAACAGCTTTCACATCTGCTGCATGGCACCGTTAACGGCAAGGACAGTGTA
TGATTCAAACTGCCCTAATTCTTCTGGTTCTGCCCAATTTTAGCATTCTCAGAAGGATCCCATCT
CTGATAATGGCAGAAAGTACAGAGACATCTGAATGGCTCAACTCTTCTCTCATTTCCTTCAAGCT
GTCTTTGTCTCTGCTCAATCCGAACAAATCTTCTCATCCTTGCTATGGGGTCTTTCAGCACCGAC

AACAGTGTGCGGACCCTTCTCTTGGGAAAGGCGCTTTGAACTCCCCTCATGATTCTTTCACTTCT
GTTCTCCACAGGCTGGCTCTTAATCTGGAGACGAACCCTTTGACGAAGATGATATTTTGGCCGAT
TGAGATAGAATATCAAAACAACATTTAACATTTAAATAACTTAACGATATACACACCTTTTTTTT
TTCCACCTCCCCACACAGACAAAAAACAACCCTATTTTTTCTTTACAACCCCGCCTAAGCAAGCG
AAGCATTAGTAACTGACCAATCATAGAAAGGAAACACCACCAGACCACATCAAATAAAATAAAAT
CACCGCCCAACCCCACCCCTATAAAAAACCCGCCGACCACACCACATATACTCCCCCCCCCCCGC
ACCATCACTACATCACCCTCTCCACCCATTCCCACCTCCCCCCCCCAACATTAACCCCACCCCATC
ACGGAAACCCCCAACACCAACAAATAAATTAGACACATCGCATTACATAAATTGACACAAGACCC
ACCCCAAAAGAGCAGCAAAGATTAGAGCCACATCCTCGGCCCAACACAATACACTCAACCTGCAT
AGTATCTATCTCCACCCCAACCTAGAAACAAAAATCTAATCAGCACCAGGCACCCAAGTATCACG
CACACTCAAAAACATACCCACCAATTAAACACGCCCCACCCACCCAACAACCCACCCGCCTGACA
ACACACTTCGGAACTACCCTCAACATCACCAAAAGCAATCGCAAGTTACGATGACTCCAACCACC
TCACTCTCTCATTG

SEQ ID NO: 7 (RAT GCR2 HOMOLOGUE NUCLEIC ACID)

Rat GCR2 (Stella) homologue genomic sequence; different intron-exon structure from mouse-Stella (fused exons). AC093991 (1 - 7657: contig of 7657 bp in length)

ACTGCAAGTAGTTCATCATTTACAGATCAAAAGAAAGAAGAATAAAAAAACAAGGTGTCATGATC
CCTCCAAAAGAGTGGAACACTTCAACTGCCAGATCCAAGATACTGAAATGGGTAGCATGCTGGAG
AAAGAATTCAAAAGTTAGGTAGAGAATCTGGTTGAGCAGAGCACTTGCTTTTCTTCCAGAGGATC
TGAGTTCAAGTCCCAGGACCTATATCACAGTTTTCTGTAACTCTAGCTCCAGAGGGTCTGACACT
TCTGTTCACTGTGGGCACCTGCATTCACAGACAAACATAAAGTAGTTCATCACCCTTTTCACAGA
AAACCCACAGCATGTGAGGAAATCCGGGTCTCTGCGCAATGCCCCCACAGCAGAAGGGGGGAGCT
GGAGAGATGGTTCATCTGTTAGCCCATTTATTGCTCTTGAAGAGAACCCAGGGTCATCCATAGCA
CCCATAGCAGCTCACAACCATCTCCAGTTCCAGGAGATCCAATGCCCTGTTGTGACCTCAGGTAC
CAGGCATACACAATGAACCTGCACACATACAAAAGTCCATAGAGCCATAGTTACCATTGTGAGCT
CTGAGAACCAAATCCGTGTTCTCTGCAAGAGCGACATGCACGCTGAGAACCAGGCACCTTTCCCA
CTGCCTCTTGAGACAAGATCTCACTATGTAGTTCACACTGGCTTCCGACTTGCCACCATCCTCCT
GCCTCTGCCTATAAAGAATGCTAGGATTATATAGGTACAAAATCACACCTGGCTGTTAAGGTTTT
TCTGGCTGTTTTTTTTTTCACCCCCATGAATGATTTTGAAAATAGTTGAGCTGTTTACATTAATA
AAACAAAATCAGATGGAGACTATATGTCATTATTCATGAATCAAATGACTAGTAACAATACTGAG
TTATTTTTATAGCTTTTCTATTTTTGTTTTAAATTTTATTTTTTCCTTTTTTTTTTTTTTCTTTT
TAGTTTTGCTTTGTTTTGTTTTGAGCAGGCTCTCACTGTGTAGTCCTGGGTGATCTGGAACTTAC
TAGGTAAACAAGGATAGCCTTAAACTCAAGAAATTTGCTTGCCTCTGTCTCCAGAGTGCTGCAGT
TAAAGTTGTACACCGCCATGTTTAGGTGTTTTTATTAGTGTGTGTGTATGTCTGTGTGTCTGTGT
GTGTGTGTGTGTTCCCCGGAGGCCATGTAGGCGCATGCTTGAACCAGAACCAGAGGAAGTGTGTT
TACAGTTACCCTGGGAGGCCAGAAGAGGGCAGGAGATGCCCTGGAACTGGAATTTCTGGTAGTGG
TTAACTGCCTAAAGTGCTGGGACCTAACACTCTTAACTTCTGAGCCATGGCTCTAGTCCTGGGGT
CCCCCCTCCTTCTTTTTATGACTATGCAGACTATACAAATTTATTTTATATATTAAGGTCTACGG
GAGCAGTTTGCCCTGGCAGAGAGTATATATATCTCATGGTGACATACATATCTCATGGTGACACA
CATATCTCATGGTGACACACATATCTCATGGTGACATACATATCTCATGGTGACATACATATCAT
CTCATGGTGACACAATTGAGCATTGAGAGCAGCTACAGACCGATTAGATCAGACTTATTAAATTC
TTGCCAAGTATGTGGTGACGCAGGCCTGCAATGCCAGTAACTTTGGAGACTGAGCCAAGCAGATC
ACCTGAGCCTAGAGACTCAAGGCCACCCTGGACAACATAGAGATATCCTGTTTCAAAATGAAACA
AGCTAAGTTCTTTGTACATAGCAGCCTCTCTATTGACTGTGGCAGGGCAGCTGACAGTGTTCTCA
CCTAGTCACAGATGTTCTTTCTAGAGGGAACAGACCCGATGAATACAAACATTTTTAGCTCAAGT
AAAAGTCTATACTATGAAGGAACTACTTCTTCAAACATCATAACATTTAAAATGAGAGATTTTAC
AAACCTTTTTTTAAAGATTTATTTGTTTATGATAAGTACACTGTCACTGTCTTCAGACACACCAG
AATTGGGCATCAGATCTCATTACAGATGGTTGTGAGCCACCATGTGGTTGTTGGGAATTGAACTC
AGGACCTCTGGAAGGACAGTCAGCACTCTTTTTTTTTTTTTTTTTTTCTTTCATTTTTTCGGAG
CTGGGGACCGAACCCAGGGCCTTGTGCTTGCTAGGCAAGCGCTCTACCACTGAGCTAAATCCCCA

ACCCCCAGCCAGTGCTCTTAACTGCTGAGCCATCTTCCCAGCCCCAACATCAATTTTTGGTCTAG
ATGTTTTACCCTGGTGCTGCCATGCCATCTCGATGGCCCTTGTGGCAGGGGTGCCGGTAAGGCAG
CCCCTAGGGCATGAGTTAGGGAGAGCAAAACCTGACCCAGAACCTGACTGCCATGAAGTGATGGA
GATGCCGTTTGAGTACATGGGGTTTTTTGGTGGTTGTTGTTTTGTTTTGTTTTTTGTTTTTGTTG
ACTTGACACATGCTACAGTCATCTGAGAGTGAAACTTAATTGAGAAAATGCCTCTGTATTTTCTC
CGGCCCCCTAAGTTGCTTTTGATGAGTGTATTTTTATCACAGCAATAGAAACTCTAACTAAGATA
GATTGGTATTAGAAGTAGAATATTGCTGTAACAGACCCTAACCATGTTCTCTTGGGGAGGATTGT
GGGAAGACTTTGGAACTTGGAACTTGGAACAGGAGAAGCCATTGGGTACTTAGAGCTTAATGGGC
TGTTCTGTGGAGCTTGGAAAGGTGCTGGAGAAATGCGGATGATACTTGTAAAGTTTGAGAGCACC
TCAAAGATGTTCAGGACAGTGTGTGCAATACATTTGAGTTAAGAATCTATGGTGTCTGGTCAGCT
GGAGCTGAAGATTCAGCTGTGATTAATAAGACCACTAAAGTAAAACTTTTGCTTTACTGGTACAA
TCAGTGCTGGTTAGCTAAGGGTTGACAGATGAGCAGTGACTAATAAGAGACTGGCATCAGAAACT
GATCCAGAGAGAGCCAAGGCTGCATCTCAAACTGGCAGCCAAATTTGATCACATGTAAGAATCTC
CCTCATGGGGGTTGGGGATTTAGCTCAGTGGTAGAGCGCTTGCCTAGGAAGCACAAGGTCCTGGG
TTCGGTCCCCAGCTCCGAAAAAAAAAGAACAAAAAAAAAAAAAAAAAGAATCTCCCTCATGTTA
CAGGCTTTGGTGGCATGAGAGCTTTAGGGTTGAAGGATCATGGAGAGCAGCCGAGGCTCCGCACC
ATGTGGCGGGGCAGAGGTACAGCCCAGTTACCACAGAGACACCAGCATATTTGGAGGTGCCAGGA
TCATGGATAATTGCCTAAGACAGGAGGCTGGCCTGACTTTGTAGGACAAGCTCCATGATCTGTTT
GGCAGGACTGGAGAAACAGAGCTGTAAGGGAAAATGAGGACACAGCTGTTCCAAGATATGATTGG
AGAGAAGGGTTTCATTGCAGATCTGAGGAAGAGGACAGCCAGAGAGGCATCTGGAAGGGTCCAGA
TTGAACTGGGTCATGAGAGGAGAGAGGGCTAAGAGGACCAAAAGAGCCTGTGACCAAATTATCAG
GGTTATAGAGAAAACAGATGCTTGGGAAAGAGAAGGGGGAGCCCCTGAGCTGGAGAGATTTAAAG
TAGGGGGCAGGATGAGAAGTGGCTGGGGCAGGATGAGAAGTGCTGAGGAGCCAAAGGCACTCAGT
GAACCTAGAGGCCAAGGATACATTTTGACATGCTAATAGGCATTTTAGTCATTTGTCCTGCATTT
CTTTAGGACAGGCCAAGCTGCCTGGGTCATTGTGAGTCCCAGATAATTCTCTTGAAATAAAATGT
TTTTTAAAGAGAGGAGGGGAAGGTTGGGGAGGGTGGTCTGAAGTTAAGAGACTTTGGAGTATTAA
GACATTGGATATTTTAGAGAAAATTTTGAACTTTTAAGAAGACTGACCTTTTAAAGTGTTTGAAT
TTTTAAAGACCAGGATACATCAGGGTGTAGGGACACATGACCCTGTCTCGCCCCCCCCCCCCAAA
ATTATAATTTTTTTAAAAAGACTGTGGGAGCTGGGTGGTGGTATAGGCCTTTAATCCTAGCACCC
AGGAGGCAGAAGCAGGCAGATCTCTGAGTTTGAGACCAGCCTGATCTATAGCATGATTTCCAGGA
CAATCAAGGCTACACAGTGAAGCCTATCTTAGAAAAAAAAAGATTGTAGTTTTAGTTTGCGATGT
ATTTTATATTGAGGTGCTGACATTAATATGAAATCTTTGTGAGTGGGCAAGAAAATAAAGACTAA
AGCTGAATACTGATGCCACTTGTGTGTCAGATTGACAAGGGGTTTTGGAATTTTTTTATTTTTTT
ATTTTTTTTTTAGGAATATATCAACCAATTGTTTATTACACAGCATGAACAAACACAAAAATCAAG
CCTTTTCCAGATCTTGCTGACAAGCCTATGGTGTCAAAACTCGGAAACGAGAGGCAGGACCAGGA
GTTAAAAGACCAGCGAGGCCTCATGGAGACCTTGTCTCAAGCAGAAATAAACAGGGTTGGTAGCA
CACACGAACTCTGAACATCACGAGTGTGCACATACCCACACATGCACCTGTAAAAACAAATCCCC
CATCTCCAATGTCTCGTTCTAATCTGTTCTTGTATTTATTAAAGATAACAAATTTGCCTTTATTA
CAAATTTCTCTGCAAACTAGAAAATCTGAAAGATCTATTCCAATTACCTTCTAAATCAAACTACC
AGGCTTTGACTCATGCTCAATTCTTGGGTAAATTTGTCATTCGCATGAATCCAAATGTCACACAT
CCTATATAATTTAAAGGTTAACAAGTAGAAGAGATGTCCCTAGCACCAAGAAAAGTTTAATCTTA
ACAGAAAACAGCTTTCACATCTGCTGTGTGGCACCTTTAACGGCAAGGACGGCGTACAATTCGAA
CTGCCCTAATTCTTCTGGTTCTGCCCGATTTTAGCATTCTCAGACGGATCCCATCTCTGATAATG
GCAGAAAGTGCAGAGACATCTAAATGGCTCATCTCTGTTCTCATTTCCTTCAAGCTGTCTTTGTC
TCTGCTCAATCCGAACAAATCTTCTCATCCTTGCTACAGGTTCTTTCAGCACCGACGACAACAAT
GTGTGGACCCTTCTCTTGGGAAAGGCGCTTTGAACTTCCCTCATGATTCTTTCACTTCTGTTCTC
CACAGGCTGGTTCTGAACCCGGTGACGAAGGCTGTGATGACGATGATATTTTGGCCACTTGGCAC
TGGGGTTCAGGGTTAGCTTTTTCATGACCTTTACTAGTGTTTCTGGTTGTAGGGTTTCTGAATCA
TTGGGGTGAGTCCTCTCCACCTTTCCTCTGAGATCTATCATCTGAGTTTCTGGATACACAACTGG
GTCAACTTTCTGTGATGGCTCGTCCATGGCGGTGGGCAGAAGCCTCAAAAGCCAGCTCCGAACAA
AATTGCTAGCTAATCTTTGGAAAGACCTAGACTTTGGCCCCAACTAGCAGACTGAAGTGCTGGAA
TTTTTTTTTTTTTTTTTTTTTTTTTTTTGTAATCAACTTGAAAACACAATTGAGAAAATGCTTCCA
TAAGGTTAAATCCTTGTGCCACCATGCCTGGACCTAAGCTTTTCATGGCCACTATTCCTCGAGGT
CTGGATCAGAAGCTTGTGTATTTCATTTCCGGATTGTCGTTCACTCCAGATTAAAAGTCCAAATG
AAAGCAATAGCCATGTAATAATGCCTAGATATAACTCTTCCTTGTTCAGCAGCAAATGCATAAGC

AATAAGCTTAGCTGGGTGGGATCTTCCAAAGCTACTCTGCTCTTTTTCTTCTTGGACATAGGATT
CAGCAACATTCTACTTCTTGATGCCCCTTTATTCTTTGAACCATACATTTTTACTTTTCCTTTCG
TAGCTTCTTCCTTTTCATCAAAAGATTCTTCATAAGAGTGAAATTTGGGGTTAGAGAGATGGTTC
AGTGGTTAATAGCACTGACTGCTCTTCCAGAGGTCCTGAATTCAATTCCTAGCAACCACATGGTA
GCTCATAACCATCTGTAATAGGATCTGATGCCCTCTTTTGGTGTGTCTGAAGAAGACAGCAACAG
TACTCAACATACATAAAATAAAAATAAATCAACATACATAAAATAAAAATAATTTTTAAAAAAAA
AAGGTGAAATTTAACCACACAACAGAATTTATGCCAGGCTTGTTTGAGACTTTTGTCAAAGCAAT
TAATCTAAATCTCTTCACCTTAGCCTCAGGTAGACTCTCTGGACAATGGCAAAAAGCAGCCACAT
TCTTCATCAAAATATTACAAGAACGGTCTCTCAGCCACATACTAAAATTCTTCTCTGAAACTTCT
AGAGCCAGGCTTCCACAGTTCAAACCACCTTCAGCAACAAAGTCTTCTATATTCCTACGATGATA
GCCCTTTAAGCCCCACTTAAAGCATTTCACTGAATTCCAAATCTAAAGTCTCCAAATCTATATTC
TTCCAAATAAAAGCATGGTCAGACCTACCTATCACAGCAATATCCCAGTCCCTGGTACCAACCTC
TGTCTTAGTTAGGGTTTCCATTGTTGTGAAGAGACACCATGACCAAAGAAACACTTTTTTTTTTT
TTAATATTTATTTTATGTCTATGAGTACACTGTTGCTGTCTTCAGACACACCAGAAGAGGGCATC
AGATCTCATTACAAATGGCTGTGAGCCACTACGTAGTTGCTGGGAATTGAACTCAGGACCTCTGG
AAGAGCAGCCAGTGCTCTTAACCGCCGAGCCATTTTCTCCAGTCCCAAAGAAACACTTATAAAGG
ACAATGTTTTTTTTGGTTTTTTTTAAAGGTTTATTTATTTTATGTATATGAGTACACTGTAGCTG
TCTTCAGATACACCAGAAGAGGGCATCAGATCTTACTATAGATGGTTGTGAACCACCATGTGGTT
GCTGGGGATTGAACTCAGGACCTCTGGAAGAGCAGTCAGTGCTCTTAACCCCTTAGCCATCTCTC
CAGTTCTAAAGGACAATGTTTAATCGGGGCTGGCTCACAGGTTCAGAGGTTCAGTCCATTATCAT
TGAGACAGGAGCGTGGCAGCATCCAGGCAGGTGTGGGGCTGAAGGAGCTGAAAGTTCTACCTCTT
GATCCAAAGGCAGACCAAAAAAAAGACTGGCTTACGGGCTTACCATAAGCAGCTAAGAGGAAGGT
CTCAAAGCCCACCCTACAGTGGCATGTTCTCCAACAAGGCCACATCTCCTAATAGTGCCACTCCC
CGGGCCATGCATATTCAAGTCGCCACACCCACTGAGCCATCTCTCCAACCTGCTCCAGACCATCT
CCCCTGCTTTTACCTAAGCTCATTAGGCAGCAATATGCCTCTTATTGTTTGAGCTCAGCATCCTG
TTTTTCAAAAGGCTGCTTGTCATCACAGTGGTTTGTTCCACAACTCTCCCAGTTTCTTTGTNAAA
ACACCAATGCCTAGAGAGATGCTCTTCTGTACATATCGCATGTGCAGAAGAAAGGGTGCCAGATC
CTTTCATGTGGACCNTGTCATGTCTTTACCCACGTAGTCGTCTGCTCTGACTCTTCTCGAGATGC
TGANAACTGATTGAGCGTAGGATGCTCTGGGTATGTGCATGGGACAATTTTG

SEQ ID NO: 8 (RAT GCR2 HOMOLOGUE NUCLEIC ACID)

Rat GCR2 (Stella) homologue genomic sequence; different intron-exon structure from mouse-Stella (fused exons). AC103122 (11084 - 13244: contig of 2161 bp in length)

CGAAGGACGGTAAGGAGAGAAGAGGGGAGAGGATCAGGACTGAGGGGAGATATGCACTGAACGGG
GGAGTTAGTAACGAGGAAAAGATAGGGAGAAAAGTGGGAGAAAAAAGGCCGGGGAGGGGGAGGGC
ATGGAAAGAAAGGCGGGGGGGGGAGATAACATGCGGGGGAAGTAAGAGGGGGGGGGTAAGGAGGG
TACAGGTAGCACAGGTGGGGGGAAGAGAGGGGAGGGGGGGAATGGGAAAGGTGAGGGTGGGTGGG
GGAGTTTTCGGCGAAAGGGGCCGGAGTGTGGATTATCGCGTGGACCAGAACGGGGGAAGGGCCAC
ATTTGGGTGGGCGGGAACAGAAAGGAAATCTTTTTAAATCGGTTGGGTCGCAGGGTGGGTGGACA
TTGAGAAAAAAATCATCAAAGCCCCTAAGGAGCATTTGTTTCGGAGTTATACGTATGGATATTTT
ATTATATGGGACGAGAGATAAAGAATACTTCTTAAGTAATCCCTTTAAAAATAATGTCAGGCTGG
AGAAATGGTTTCATGGGTAAGCAAGTGTGAGAGATGAGCGCAGACCCCCAGGACCTGTGTAGACT
TAATGCAGAGGTGGATGCACGCCTGTAATCTCAGCATGCCTACAGCCAGATAGGAGATGGGGACA
GAGAAGTGTGGGGGCCAACTAGCCTGGTGTCTACAGCCTGGTGTCAACAGCAGCCTCCTACCTCA
AACAAGGTGGAAGGTAAGGGCTGATACCTGAGATCGTTGTCTGACCTCCACACACATTGTGCTTA
TACTTTACACACATACTCACACTCACACATACATACACATATATACCTGGTCTCCATTAGGCTTC
TATTGCTGTGATAAAGATTACGACCGAGGTCTTTCCAAAGACTAAGCAGTTTTGTTTGCAGCTAG
TTTTTGAGGCTTCTGCCCACCACCATGGAGGAGCCATTAGAGAAATCGACCCAGTTGTGGACCCA
GAAACTCCTCAGACGAAAGATGAAAAGGACGCATCCGCTGATTCAGAAGTCGTAAGCCAGAAACA
CTAGTAAAGGTCATGAAAACGCTAGCCCTGAACCCCAGTGCCAAGCGGTCAGCACATCGTCGCAG
CCTCCGTCTCCGGATTCAGAGAAGACCTGTGGAGAACAGAAGTGAAAGAATTTCGAGGGAAGTTC

AAAGCGCTTTACCCAAGAGAAGGGTCCGCACGTTGTTGTCGGTGCTGAGAGATCCTATAGCAAGG
ATGAGAAGACTTGTTGGGATTGAGCAGAGACAACACAGGCTGGAAGGAAATGAGTAGAAACGGAA
GAGTGTGCCATTCAGACTCACTGTGCTTTCTGCCATTATCAGAGACGGGATCCGTCTGAGAACGC
TAAAATCGGGAAGCATTAGGACAGCTTAGATTGTACACTGTCCTTGTGTTAATGATGCCATGCAG
CAGACCTGAAAGCTGGCTTTTGCTTTTTAAGATTAACCTTTTCCTGGTGCTGGGGACTCTTCTAA
CTTGTTAACCTTTAAATTATATAGGGTGCGTGATGTTTGGATTCATGTGAATGACTTAAATTTAC
CCAAAGAATTGAGAAGGAGTCAAAGCATTCTGTGAATTTTTGAAGCCTCAAGCCCGGGGCCGAGA
AACAATGTTAATAGAATTTGGAATAGTTTGGTTTAGAAGGTAATTGGGATAGATCTCTGAATTTT
CTAGTTTGCAAAAACAAAAACAAAAAAAAAGACTAAAAAAACAACTGGGGAGGAGTAAGGTTATT
TCAGCCTCCATGTCTTGATCCCAGTCCATCATGAAAGGAAGTCAGGACAGGAACTCAAGTCAGGA
CCGTGGAAGTAGGTAGCATCTGAAGCAGAGACTTCTGGGATGAAAGCGCTGCTTCCTGACTCGCT
CCCCACAAATTGGTCCCTGAGCCTTCTTGTCCACCCTCGGACCCCTTGCCTAGGGTTGGCACCAC
CCACAATGGGCTGAGCCTTCCCATGTCAATCACTAATTAAGAAAATGCTGTACAGCGTTGCCTAC
AAACCAGTCTTAAGGAGGCGTTTTCTCCATTGTGGCTCTCTCTTCTCTGATAACTCTAGCTTGTG
TCAAATTGACAACCAACCAGCCAGCACACAAACANTTAAAAAGATAGAAATAATGTTAGTGNNTC
NCATCGAGCAAGAGTC

SEQ ID NO: 9 (RAT GCR2 HOMOLOGUE NUCLEIC ACID)

Rat GCR2 (Stella) homologue genomic sequence; different intron-exon structure from mouse-Stella (fused exons). AC099436 (1 - 21688: contig of 21688 bp in length)

TTTATGATTTTAAAAGTTTAATTCTGGACTGGAGAAATGGCTCAGTGGTTAAGAGTAGTAACTGC
TCTTCCAGAGGTCCTGAGTTCAAGTCCCAGCAACCACATGGTGGCTCACAACCATCTGTAATGAG
ATCTGATGCCCTCTTCTGGTGTGTGAAGACAGCTACAGTGTATTCACATACATAAAATAAATAAG
TAAGTCTTTAAAAAAAAAGTTTAATTGTGTGTGTGTGTGTGTGTGTGTGTGTGTAAGCTTGCA
AATAAGAGGACAACTTTGAGGAGCTGATACTCTTGTTCTACTGTGTAGGGACCAACAGTTGAACT
CAGGTTGTCCGGCTTATGCAACAAGCTTTTTTACTTGTCTTCGCCAGCCCACCAGTCCTGTGTAA
AGCTGCATACAGCTCACGTTGTAACATGCTTGTCTAGTACTTGCAGGACATAAACTAGCAAGCAC
TTGGGTGAAAACGGGAGGATCAGAAGTTCAATACTATCCTTGGCTACTTAACAAGTTTAAGGCTA
TAGGAATAGGGATATAGGAAACCCTAAGAAAGTAAAATTTATTTACTGTGCTTTAGGTGATCAAA
CCTACAGCTTTGCATGTGATAGACAAATGTTCTACCACTAAGCTACATCCTCAGTGTTCTTTATT
ATCTATTTTTTTTAATAAATCTTTTTTTTTTAAACATTGTTGTGAGCCACCGTGTGGTTGCTGAGAA
TTGAACTCGGGACCTCTGGAAAAGCAGTCAAGGAAGCCAGAGTGGCCGGAACTCCTGAAAATGGA
GTAACAACAGGTTGTTGTGAGGGTAATTGAACTCAGGTCCTATGCAAGAGCAACAAGAGGTCTTA
GCCCTTTATTATTTTTTAATATCTAATTATTTTTTTATTTTTTTATTTTTATTTATTTATTATAT
ATAAGTACACTGTAGCTGTCTTCAGATACACCAGAAGAGGGCATCAGATCTCTTTACAGATGGTT
GTGAGCCACCATGTGGTTGCTGGGAATTGAACTCATGACCTCTGGAAGAGCAGTCGGGTGCTCTT
AACCACTGAGCCATCTCTCCAGCCCTAATTATTTATTTTATGTATGTGAGTACACTGTAGTTGTC
TTAAGACACACCAGAAGAGGGCATCGGGTATCAGATCACCATTACAGATGGTTGTGAGCCACCAT
GTGGTTGCTGGGAATTGAACTCAGGACCTCTGAAGAGCAGTCAGCATTCTTAACGACTGAGCCAT
CTCTCCAGCCCAACCCCCCCCTCCATTTTTTTTAATACCAAAAAGGAGCTTCCTGCAAGAGAACA
TGGCCATATACATCCACCCCTCTTTCTTTGAGGTTTTGATAGTGCTGCTGCTCCTGCTGCTTGGA
AAAGAAAATCCTCTAGGACTAAGCTAAAAGAGCCAGATGGATGGAATTGCGGTTGCCATGGCAAC
ACCATCTGAGGATACTGAGCCTGCTGTCTCTCCCAGTTATGTTGACATTTGGTGTGGTTTCCATG
CTTGAACACTGAAGTGTCTGTCCACCTATGAAAGAGAGGCCGTTCCCAGAGGTCTTAATTTATCT
GCTCCATCAGTAGCATTTGGACTGCTTACATTTATGTCTGGACAACCATTGGCCAGGAGGTAGAA
GAGGATGGAGGAAGGCCCAGACCTGGCTGGGTACTATCGGATCTAGTGAAGCTGTATAGAATCTG
TCTGGGGTTTATTTACTCCCAACTGGAGCAGAGGCAGGTGCTCAGGAAGGCAGTAATGAGATCGA
CCTTACCACAGGAAATAAAGTGACTACTGTGGATACCATCTGGGATGGATCACCGCTGAGCCACT
CCACCCTCAGAACAAAGCTACCATATCGTTAAAGTGTCCTGAGCTCAGGGGAAGGCCCCTGCTGC
CTGTGAGTAGAGCCAGGTAACCTTAACAAGCCCTATCTACACTTCATCTTAAGGCATTCTGTTAC
ATACAAAGAATTCTACTCTTTAATGAGCAGACTTTAAAAAAAATGAGCCAACTTACACTTTCAGA

AGTTTGATCCTTGATTGCACATGCCTGAGACAGATGGCCAGTCTCAAGGACAGGCCTCCCACACT
GAAGTTAGTCTTCAGCAGTATGTCATGTCACCTAGGCAACCAATAAGAGCTCACCTAAGAAATTT
CCACTTTACCTGGTAAAGAGCGTATCTTCCCTCCCTTTCTCTCCAATTAGCATCCTCACTTCCAG
ACTTCCCTACTACCGACTTTAAAAGATCAAAGCCAGGCACGATAGCACAGGCTGAGGTCGGAAGG
CAGAAGCCAGAAAGATCTATGTGATTCCCAGGCTACTTAGCACCACACAGTTGAGACCCTGTCTA
ACAAATGGAGGTGGGAGGCATGGCAGTAACCTGAACCTACAAATTTATCAAAATTTCAATTAAGA
ACATTTTGTTTTGTTTTTGAGGCAGAATCTCACTACGTAGAGTGGGCTTACACCCAGTTCCAATT
AAGAACATTTTAAGGGCTGGAGAGATGGCTCAGCTGTTAAGAGCACTGGCCACTCTTCCCAAGGT
CCTGAGTACAATTCCCAGCAACCACATGATGGCTCACAACCATCTGTAATGAGGCCTGATGCCCT
CTTCTCTTGTGTCTGAAGACAGCTACAGTGTCCTCATTTAAATAAAAAAACATTTTAAATAGAAA
ATCCAACAGGGAGGCTGATGAGAAACGACATAACCTTTGTCCAGGAGTGTGGTTAAGGGGAATGG
AACCATAGTAGAGTCCATTTCTTTTTCTCTTTTGAGCCAAAAAAGTTTTATTTATTCATGTCTTC
CATTTGAAGTACTCCTTGGTGGCATCCTAAGCCTGAGATTCTTTGCCATACGTAGTTCTTAACCA
CTACCCAACTGCAACCAACTGTTTTCTGTGGCATCCCTCTTGATGACTTTTACACAGGGGTTGGG
GATTTAGCTCAGTGGTAGAGCGCTTGCCTAGGAAGCACAAGGCCCTGGGTTCGGTCCCCAGCTCC
GGAAAAAAAAAAGATTTTTACACGGGCACACCCACTCCACTAGTTTCTCATGATCAAGTATAATC
AGATTGATCTGGTGCTCGGCACAAAGTGCCTCCTCCAGCTCGACACACACGAGCTCATCACAGTC
GGATTCGAGCACACAGATGGGTTTGGCACTTGTCTAAGGCTTCAGGAGCTTTGTGTTTGCCAACG
TGCTGGGCTATCGTGGATGAGGGCGGTCTTCAGCACCTCTTGTAGAGCAGTGTTGACATCCACAC
CTCCAGTGGCAGTGCCCTGCTCCGCTCTCGGAAGCTGAGGTGGAATAGCAAGTCAGTTTCTTCTC
TCATTTCCCAGACACCATTATGGATGCCTCAGTGTCAGCTGTTCATTTGTCACTTACTTTTCACA
ATTGTGTTATTATTATTGATAGATTATTGTCTCTGTCACTAGCTACCGAGGCAGGGTCTCACAGG
ACTTATCCAATTGTTTCTGCCTCCCTCGAGCTAAGCCTGAAGGCATATATGAATCATCTCACCAA
GCAGCATCAGCTTTTAAGAGTTTCTGAACGTCAACACGTTAACACTGGGGCCATATTATGTACGA
TGTAATTAATCCTCGAGCAACTGGCCACACAGCCCTAAAAGAAAAAAAAATCCAGAACCAAACAA
ACCAAAAACAGGCACGAATGGTGGCACACACCTTCAATCTTTACACTTGGAAGGTGGATCCAGGA
GGAGTAGGAATTCGAAGCCGGCCTAGAGTACCAGTAGTTGAAGGCCAGCATCTGTCTCAAAGCAA
ACAACGATAATAAAGTACTTGTTTCAGCTGGGAGGTGGTGGTACATTGTGGAGGGAGAGGCAGAC
CTTGAACACTGGGTTCAAGGCCAGCCTGGTCTAGAGATCAGATCCCCAAAACAGCCAGGGATAGA
CAGAGAAGCCCTGTCTCAAAACGTGAGGCTGGAGAGATGGCTTAGTGGTTAAGAGCACTGACTGC
TCTTCTAGAGATCCTGAGTTCAATTCCCAGCAGCTATATGGTGGCTCACAACCATCTGTAATGGG
ATCTGATGCCCTCTTCTGTGTGTCTGAAGACAGCTACAGTGTACTTATATACATGAAATAAATCT
AAAAATAATAATAACGTGCACAATGTTCTGCCTGCCTATATGCCTGCAAGCCATCCCTCCAACCC
AATAAATAAATATTAAAAAAAAAAAAAAGCACAAAACCAAACCAAAAGTAAAATAAATAAACAAC
TTTTATTCCTACCAAGAGAAGACACATTTCCTTGAGAACTAAGGACAACATGTTTATGGTTAGAA
CACAGAAGAGAATAAGAGCACAGCTCAGCTGGAAGAAACAAAGTGTTCTGGGGACAAGGAGCCTT
CTTCCCTGCCCCCATAACAGTGGCCAGATTGAACCTCTGGTACGACAGTCAAGTTGGTGCTGAGT
TCAAGTTGGAAAGTCACACTTTCTAAATCAGGATCAAAGCAAGCTGGAGGCTCCCTCACTCAGCT
CACAAGTCCTGTGAAATCAGGAAAAAAATATCAGTTAGACACTGAGTTCCCAGGCAGCCAAAAAC
CAAAGATTTCCCACCACCAAAGACAAGGTATCTTGGATTTCCAAGGGAACAGAATGAGAACTTAT
ATCTCTGACTGGCATTTAAATCCTACAGCCATCCCCTCTCCAGCACATCCTTTCTCCAGGGAATG
GTCCCAGCACCCATGTCAGGCACTCACCCAAGTAGTCATCCATCAGAGAGCCAATAGCAAACTGC
GAGAGGAAAGGGAGAAAGGATGGTGAGGTGGGGCCCCACCCCATTCCGAGCCTTCTGTCATCTAT
TCCCTGCTCATGGACACAGAGCACAGAGCCCCCAACAACTGTGGATGGCAAGAGGTCAACAGCGC
AGATGGGGAAAGAGCTTGCTCCAACCCTGATGACCTGACCTCCACCCCCAAAATCCACAGCAGCA
TGCGATGACCTGAAGGCGGTCTAAATGTCACACTGTGGCGAGTGTGTATGCCCACACATCCACAT
AAATATGTTCTACAAAAGAAACGAGAAACCCACAGCTGTCAGCTGTGAATGATGACTTTGGATTA
TTTATAATCCTACTACCCAGGAGGCTAAGGCAGGCCAGTCAAGCAAGAGACTCACAATGTCATTC
TTGTCTACACGTGTCCCTACAATCTTCAAGCGTATCTCATCGTCCTGCTGAATTACAATGTCCTG
TGGAAAGGAGAGAGCAGGGTCATCAAGCAGACTCAGGCCTGGTCCTCATCCCTCTCACCAACTCC
TCCTCATTCGCTCACCTCATCCATGGTCTTGTAACAAGGGGGGTTCGAATTTGGATCAAACTCCA
TCTCTGAAGGGATGGACTAGAAGGAAATTGACACAAAGGTTAGCATTTCAAATAGCTGCATCAAA
GGATGAGAGTCAGGGGCTGGTTTCTCCTCCTCGGCCTCACCCCACACGCCCAGACTCACGTGTCG
AGAGATGAAGCAGGACATGGGCCCAATTTCTGTGAAAAGTCCAACCTAGAAGGAAAATGACCGTG
CTTCAAACGCTCTGAAGCATCTTTACCTGATTTCTAGGCACATTATTCATGTTTCTTAACAGTTT

AAATTGTAGCATTTGTTTTAATTTCTCTCTGTGTAATCTTTCATTTCTTTACATTTTTGTTCTTC
ATTATTTTTATGTGTAAGAATATTCTGACCTCACATGTGCCTGTGCACCATGTACCTGCAGTGCC
CATGGAAGCCAGGAGAGGGTATTGGGACCCTGCAGAATTAGGAGTTACAGATTATTGTGAGCCAT
TGGCTGGGTGCTGGGAGTCAAACCCAGGTCTTATAGAACCAGTAGGTGCTCTAAACCACTGAGCT
ATAGACCCCTTAGCCTTTAAGAAACTTAATTTCTGAGGCTAGAGAGATAGCTCAGTGGTTAAGAG
CACTGACTGCTCTTCCATGGGTCCTGAGTTCAATTCCCAGCAACCACATGGTGGCTCACAACCAT
CTGTAATGAGATCTGATGCCCTCTTCTGGTGTGTCTGAAGAGAGCTACAGAGGAGTGTGTATAAT
AAATAAATCAGGGGCTAGAGAGATGGCTCAGCGGTTAAGAGCACTGATTGCTCTTCCAATGATCA
TGAGTTCAATTCTCAGCAATCACATAGTGGCTCATAATCATCTGTAATGGGATCTGATGCCCTCT
TCTGATGTGTCTGAAGACAACAGTGTACTCATATAAATAAAAATAAACAAACAAACCTTAAAAAA
AAAAAAAAAAAAAAGAAAAGAAAACCCAAAACTAAGATAAAATAAAATAAATCTTGACAACCACA
AAAGGCTTAAGGCAACTAATAAGTGGACTGGGAATTGAACTCTCACCTTAGGAAATACCCCGTAA
CCTTTCTTTTTTTTTTTTTTTTTTTTCTTCTTTTTTTTCGGAGCTGAGGACCGAACCCAGGACCT
TGCACTTCCTAGGCAAGCGCTCTACCACTGAGCCAAATCCCCAACCCCATAACCTTTCTATAAAT
AATACTCTTACCTTGTTGACCTGAGTGACCACAGCATCCACCACTTCCCCTTTAAAGGGCCGGAA
AACAATAGCTTTGTATTTCACTGGATAAAGAACAAAACCTCGGCCCGGCTGGATCACACCAGCAC
CAATATTGTCGATGGTAGTGACAGCAATCACAAAGCCATATCTGCAGGAAAGATGAAAAAAGACA
GCTACTGTATGTGAAGAGCCTCTAAAAAGCCACCAGCAATAGTCTGCGTGTGATGGAACCTCTGC
TCGAACAGCTCGATGACCAAGAAGAGACAGAACTCAGATTAGCACCTGAAATATTAAATGGTGCT
CTCACAATTGTACAGTAAATGCCCAAGAAGGCACAGATATGCTGACATACACCTATTCTCTCAGT
ACCAGGACTTGCCAGGTCAGTGGTGAGACAGGTCTTTCGAAAACCACAAATCAGACAGAAAATTG
TGACGAAAACCTTTAATCCCAGCACTCAGTGGCAGGCAGTTCTCTGAATTAGAGGCCAGCTTGGT
CCACATAGTGAGGCCATCTCGAAACCCAAAACATTTGCATAATAACGGTCTGATCTCGCATAAGC
GAAGAAAATTTGGTTTAGCAACCTTTTAGAAGGCCCAAAATAGGCAAAAACTGGCTGCTTCGGAT
GCCTGGAGTGGTGAAAGAGTTCCTCAGAGTAAGTAACAAGCCCTGACTGAAGGAGTGAAGTAGAG
GTTACAGAGTAGCGTTATTGTGCCTGCATTCAGCAGACGACACTGTGAATCAGACACTTACTTCC
CAGTGCAGGTCCCCTCCACCTCGGTGAACAGCTTCTGCTTCACCGTGTTGAGCAAGTTGGGACCA
AAGTAGCGTGGGTGCAGTAGGATCTCGTGCTCCAGGGAAATCTGCAGAGAAAGGAAGATGAAGAC
TCCGCCAGCCACACTGAGAACAGGAGGCGACCCGTCGGCCCTCCAGGCTCCTCCTGTCCCTGCCC
TCACCGCTACCCCGCGTCCAGCTCACATGATAAAACATCTTCTGCAGAAGCTTGGACCGCAGAGG
CCAGAACTCCCCAGGAAGGGACCTCGCCGGAAGCACTAGCAGAAGTCCCACCAAGTCTCCGCAGT
CGCTTCCGCAGATTTGAGTCTTAACGCCATGGGCGGGGAAACGTGAAGCCCCGCCCCTCAGGCCT
TCCCATCAGCGCTCATCAGCACAGCCAGGATTACACAGAAAAACCCGGTCTCGAAAAACCTTAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAGGTTAAGAGGTCTGGCTTGTCGCCACATGCCTTTAAACCC
AGCCGTGGCAGACAGATCTCTAAATTCAAGGCTAAGCCACATCTACAAAGTGAGTTCCAGGATAA
CCAAGACTGTGTATACAAACCCTATAAAAAAATTTGTTTTTGGGGTTGGGGATTTGGCTCAGAGG
TAGAGCGCTTGCCTAGCAACCGCAAGGCCCTGGGTTCGGTCCCCAGCTCCGAAAAAGAGAAAAAA
AAATTGTTTTTTAAATTTTATTTTAGGGGCTGAAGAATTAGCTCAGTCCTTAAGAGCACTTGCCA
GCCCCCACAGGATAGCTCACAATCTTATCTGTAACTACAGTTCAGAGAGAACTGACACCCTCTTC
TGGCTTCATTCAGCACTGCATGCTAGTGGTACACAGACATAATGCAGGCAGAACACCGATGCTTG
TAAAATAAAAATAAAGATGAGGTAGTTGGGGAGATTGCTCAACAGTTAAAATCAATGGTTGCTCC
TCCGAAGGATCCAGGTTTGATTCCTAGAACAAACATGGTAACTCAACTAGCTATATTTCAATCCT
AGGGGATCCAGTGCCATCTGGGGCCTCCATGGACACTTCTCCCTTGTGGTGAACAGGCATAGATA
CAGCCAGAACATTCATACATATAAAATAAAAATAAAGGTTTTTACACATAAAATAAAAATAAAGC
TCTCGAAGAGGACCTGAGTTCAATTACTAACACTGCACCCGAGGTCTCACAACTCCAGCTCGAAG
GGGATCTGAAACTTTCTCATTGCCTCAGGAGGTACCAGCACTTGTGGGCTTGTACTCACATACAG
ATAACAGACATCATTGAGTACACCTAATTAAGAAGAAGTCACTTGGAAGTGTGGCACACGCCTTA
AATCCCAATATTCAGGAACAAAAGGCAGGTGGGTCTTCAAGTTCAAGGCCAACCTGGTCTACAGC
ATGAGTTCCAGAACAGCCAGGGATACATTAAAAATGAAGGTGTCGGGGTTGGGGATTTAGCTCAG
CGGTAGAGCGCTTGCCTAGCAAGTGCAAGGCCCTGGGTTCGGTCCCCAGCTCCGGAAAAAAAAAA
TGAAAGTGTCTTGTTAAACAAAACAAAAAGACAACAAGCAAAAAGATTACTTATGTGGGCACGCA
CTGGGCTTACTTTCTTTTCTATTTGAGGGACGGTTTTATTATGTGACCATGGATGACCTGAGATT
TGCTTTGTAGAGTAAGCTTGCCCTGAACTTTTTTTTCCCCTGGAGCTGAGGACCTAACCCAGGGT
GGTGGGTTTATAGGCAAGCGCTCTACCACTGAGCTAAATCCCCAACCCCCCACCCTTCACTTTTA
GGATACCAAGCAGACTCCTTGGTCTAGGAACAACCTCAGCCTCGGGACTTTTTTTTTTTTTACAC

TAGGTTCCGCTCCTGTTAGACTAGACTCTTCCACCCCTCAGTACATTATACTACTAGGACACTAG
GACAAACCATAGCAAATCTGTCACAGCACCAGTGACAGCCCTAAGCCTGACTCCATCTTTTCTTT
TCTTTTTTTAAATATTATTTATTTTATGTATATGAGTACACTGTCATTGTTCTCAGACACACCAG
AAGAGGGCATCGGATCCCATTACAGATGGTTGTGAGCCACCATGTGGTTGCTGGGAATTGAACTC
AGGACCTCTGGGAGAGCAGTCAGTGCTCTTAACCGCTGAGCCATCTCTCCAGCCCCCACTGAAGA
CTTTTGATCTGGTTACCATCTGACCCCAATCTCTTGCAAAAGCCTCCCTTCCTCCTTCGAAGAAA
CTCTTACGTCTTTTATGTCCTTGGCCCATGACTTTGTATTAAATCAGCAACAATGACAAGACCTG
TATGTCTCTCCCTAGCTCAGAAGACAGATCCTTGTTCCTTGTTAATGTTTTGATTTTCTGGTCTG
TCCGTGGGGACAGTCTGATAGTTCTAAGACTGATAGCTTTGAGGGATTCTAAACTCACAACAGGG
CTATTGTTACCGATGGGCACAATACAAGGCTGCCATTGCTTTGGAGTGGGACCATTATCTTGACA
GAAAGAATTACCATAAACCCTAGCTGTGATTGCTCCGGGAGTCCATGCTAATGAAACACTGCCCA
CGGCCTTCAGGAAACTTCTCACAGAGTGCTGCCTCTTGGAATGACTGTGTGAACTCTCTACTGTC
CACCTGCAGCAGCCATACCGAAATACAGTCTAATAACCTCTCAACTTCTGCATTCTTAGTCTTGG
TGAACTCTTTCGCCTCCAATGTCATGACCTTTCAAAGTCACCTCACATAGCAGTCTGCAGCGAGA
ACAGGTAATTCAGGGGCTGGGGATTTAGCTCAGTGGTAGAGCGCTTACCTAGGAAGCGCAAGGCC
CTGGGTTCGGTCCCCAGCTCCGGAAAAAAAAAAGAACCAAAAAAAAAAAAAAAAGAGAGAACAGG
TAATTCAGCTAAGACTGGTGACACAAGTGTAATTTTAATACTTAGGAGGTTGAGGCGAGCGCATC
TGGAGTTTGGATTAACCTGGACTCCATAGTGAATATTGGGCTAGCTTAGGCTACATAAGCAAGCC
TCTCTCTCTCTCTGTCTGTGTCTCTGTCTCTATCTCTGTCTCTGTCTCTCAACCACAAAAGAGAG
AACGGAAAAAAGGAAGAAATTAAGAGAAAGAAAAACAAAAGAAATTTCTCTAAGCAAAGCATATT
TATTTATTTATTTATTGTTTTTCAAGACAGTGTTTGTCTATGTAGCATTGGCTGTCCTAGAACAA
TCGTTGTAGGCCAAGCTGGCCTTGAACTCATAGGCCTGCCTTTGCCTTCCAAATACTGGAATTGA
AGCCTTGTGGCAGCACTGCCCAGCGACACCTGGAATTTTTTAAAATTTATTTATTTATTTATTTA
TTTATTTATTTATTTATTTATTTATACACTCCAGATATTATTCCCCTCTTGGTCCATCCCCCAAC
TGTTCCACATGTCATACCTTCCCCCACCCCCCAGTCTCCACAAGGATGTCTCCAACCCACCCACC
CTCTCTAATTTTTATTGTACATTCCTCTTTCTTTCTTTTTTTTTTTTTTTTTTTTTGGGTCTTTT
TTTCCGGAGCTGGGGACCGAACCCAGGGCCTTGCGCTTCCTAGGTAAGCGCTCTACCACTGAGCT
AAGTCCCCAGCCCCTACATTCCTCTTTCTAACTTCTTTGGCACAGCATCTTGGAGGGTGCAAATC
AAGAGACAGCTTTTCTTTTCTTTTGTGATGCCAACTTTCAAGCATTTACATTTTGGGTTGGGTTG
GGTTGTGATTTTTTTTTTGTCTTCGAAATCTGCATTTTTTTTCTTTCCTTTTTTTTTTTTTTTCA
GAGCTGGGGACCTAACCCAGGGCCTTGCGCTTGCTAGGCAAGCGCTAAAACACTGAGCTAAATCC
CCAACTCCTAAATCTGTATTTTTATTTGTAACAACTGTATTTCTTTTTCTATATCCTTTAACTCT
GGAGTTTTCATTTCTTCCCTCCTGCCCCCATAACTATAGTCACAGTTAAACTGTGTTATCAGGAA
ATTCAGGAAAGGTGCCTTGATGAACAGATCAGGACAGGAGCTCTGACCAGTAGTCACTGTCTTCC
TCTTCCTTAGAATAAGTAAAAATGAAACCAACCAAACTTTCTTCTCTTTCTTTCTTTCTTTTTTT
TTTTTTTTTTTTTGACGTGTCTCCTGTGCTTTGTCAGTAGCATGAATTTCATTTTTTTTTTTTTT
TTTTGGTTTAAAAAAGGCAACCTCAAAACCCAAACCTCTTTATTGTCAGGGAAAAGGGAACTGCA
ATGACTTGAATTTGAGGATGTGGGTACTGCCTCACTCACACACATTCTCAGACTGTGTGATGCCC
TGCACACCTGTAGAACAGTTACATGTATGTGCACCTGTATTTGTGCCTATTAGAACAGGACCTGC
AGGGAAGTCTACCTAACCCGAAACTCCCCAGTGGAACAGGCAGGGTGGGTGGAGGGCTGGGACAG
ACAAGGACTCGGCGCACACATACAGTACCACATAAAACAGTACAGTGAAGGTGGGCTCAAGACCC
AGGCAGCTTCCTTCTTTTCAGTAACAGGGCCCAGGCTGCCTTTCACAGCACAACCCCACAGCTGA
ACCCAGGTCTCTCTTCAAAACCAGCCATCTCACTCAGCAGCGCCAAAGGAAAAGTAGATGTAGCC
TCCCTGCAGAGAAACAGCTTTTCTTGTTGTTTTTAAATAAGTAAGTAAATCCACCATCCCTCTGC
TCCAAGATGGCTGATGTTACACTTTTCTACCAGATTGGTGCCTGCTTAGCTCACTAACAGTGCTG
CCTCCGCCGGCTGTGGCAGAGTTTCCAGTGTGGTGTTTTCAAGCCTCACCCACTCATCCTCTCAT
TCCCAAACATTCAGTGCCCTCCTCACTTAGGGGTTTTCGAAATGTTTAAATTTTGTATTACTTTA
AATATATATTTGTTTTATTTTCATGCGTCTGTGTGTATGCTTGTGAGTTTCACACATGCTGTGTG
TGCACAGGAATCTATGAAAGCCAGAACAGGGCATCAGATCTACAGGAAGAAACCAAGTGTCCAAA
AAGGGAAGAAACGAGATCCATCTGCCTCTGTGGTGCTGGAATTGAAGGTGTACATCACTACAACC
ACCGGGGATGGGTATGTATGTATATATATATATATATATATATGTGTGTGTGTGTGTGTGTGTGT
GTGTGTGTGTGTGTAAGGGTGTCAGACCTTCTGGAACTGGAGTTAGACAGTTGTGAGCTGCCATG
TGGGTGCTGGGAATGAACCCTGGCCCTCTAGAAGAACAGCTGATGCTCTTAACTGCTGAGCCATC
TCTCCGGCCCCTTATTTTTTATTTGTGTGAGAGAGTGGAGGTCAGGGGACAAACTGAGAGACTTG
GTTCTCTCCTTCTGCCATGTGAATGCCAGGGATTGAATGCAGGTTGTTAGCCTTGGCAGTGAGTG

CTTTCCCCGCAGGGCCATCTTGTCAGCTCTTTGATTACATTGTAAACCCTGGCACTGTGTTATTT
GCTGGGAAATGTTTTTAGTTGTGGGATGACTCAGCTTTAGCACATGCCTTTAATCCGAGAGCTTT
CTGCTTGTATATTGTAAGCAGGATTAAATAAAGTCAAATCTTAGGTCAAGAGATGGAGCAAGCAA
AGAGTTGACAGGAAATGAACATAGAATTATTGAGAAAAAACATATAGGGGTTGGGGATTTGGCTC
AGTGGTAGAGCGCTTACCTAGGAAGCGCAAGGTCCTGGGTTCGGTCCCCAGCACCGGAAAAAAAA
AAAAAAAACATATAGAGTAAGGGGGAGTCGGGTTTAAACTGTACAGAAGTCTCCATGTCTTATTT
ATAATGTAAGCAGGTCTGCAAAAGCCTGCCGTTGTGTCCTGTTGCCTTTCTTCTGGCAGTGAAGA
GGATCAGTTTTGAAGGCAGGCAGAATAGGTGCGGAGAGATGGCTTGGCAGTTAAGAGTATATGCT
GCTCTTGCAGAGGACCTGCATGCAACTGCCAGCACCCACACAGTGGTTCGTAGCTACCTGTAACT
TCGTTCCATGGGATCCGATGCCTTCTTCTGACCTCTGAGAGCACCGACCATGCACATAGTGCATG
AACATACATGCGGGTGAAAGACTCACATAAAGTAAAGTGAATACATCTAATTAAAATAAAGACCA
CTTTATGGGCTGGAGAGATGGCTCAGCGGTTAAGAGCACTGACTGCTCTTCCTGAGGTTCTGAGT
TAAATTCCCAGCAACAGATGGTGGCTCACAACCATCTGTAATGAGATGTGATCCCCTCTTCCTGG
TGTGTGTGAAGACAGCTCCCAGTGTACTCAATACACCCCTCCCCTCCCTGAATGGGAAAAAAAAA
AAAAAAGCCTGGGGTTGGGGATTTGGCTCAGTGGTAAAAAAAATACCTATGAAGCACAAGGTCCT
GGGTTCGGTCCCCAGCCCCGAAAAAAAAAAAAGAAAAAAAAAAAAGACCACTTTACACGTAAAAAA
TAAAAGATGGGCAGATTAGGCCCTGTACTAAACAGGATTCTTTAGAGGAACTGAAATGAGTGTGT
GTGTGTGTGTATTCATTTTTTTTAAAGATTTATTTATTTTATGTATATGAAGACACTGTTGCTAT
CTTCAGACACACCAGAAGAGGGCATCAGATCGCCTTAAAGATGGCTGTGAGCCATCATGTGGGTA
CTGGGATTTGAACTCAGGACCTCTGGAAAAGCAGCCCCGTGTGTACTCATTTTATATATGAAATA
TATACACACATACACACGTGTGTGTTAGATTGGCTTCCTTGATGGTCCAGGTAATTCATCAATGA
GAATCAGTAGTTACTCAGTCTACAAAGCTGAATGTCGCGACAATTCTGATCTGGCACTTTAGACC
TAGAGGACTCCTGGAGAGTCTACATGGGAATCCTGGACATCTGGAGATCCTACACAAAATCCCTG
CCATTCCCACCAAGGGCAGCTGTGAATGGCTGTGGGGAAACATTCCTTAAGCTAAGCCTGAAGAC
CTAAATCCAATCCCTGGAACCCGTGTGGTAGATGGAGAGAACTGACTTCTGTTTCATCTGACCTC
CACTGGTGTAGCCGCACATACATGCATGCAAAACAGTCGTGATAAATAAATCTAAAAAAAGTTAG
AGCACCTGTCAATAGATAAGTATAACTTAAAAGTGAAACGAAGCCTATGCTTTTAAATCGTAAGG
ACTGGGAGGCAGTCAGGCACATATCCAGGTTCCAGACCAGCCTGATGTATGTAATGAGTTCCAGA
CCAATTAGGGCTATATCATGAGACCATGTCTCAAAACCAAAAAACAAAAGAAAAGAAGAAAAAAG
AAGAACATCAAGTCAAGCATGATAAATCACATAATCCTATAATCCTAATAATGGGGAGGCTGAAG
CAGAATGGCCATGCCTTTGAGCTTAGCCTGGGCAGGACAACCAACTGGGCTACACAGGAATACAT
AATACACTGCCATTAGAAAAAAAAGCATGGCTGACTTCGTCACTGCTAGTTGGGGCTTGGGTTTA
GGTCTTTTCAAACACTAAGCAATTTGGTTCGGAGCTAGTTTTTGAGCCCTCTGCCCACCGCCATG
GAGGAGCCACCAGAGAAAGTCGACCCAGTTGTAGTCCCAGAAGCTCCTCAAATGAAAGATGACGA
GGACGCGTCCGCTGATTCAGAAGTCCTACAACCAGAAACACTAGTAAAGGTCATGAAAACGCTAA
CCCTGAACCCCAGTGCCGAACGGTCAGCACGTCATCACAGCCTCAGTGTCCGGATTCAGGGCAGG
CCTGTGGAGAACAGATGTGAAGGAATCTTGAGGGAAGTTCAAAGCCTTTCCCAAGAGAAGGGTCC
ACACATTGTTGGTGGTGCTGAGAGATGCCGGAGCAAGGATGAGAAGATTTGTTGGGATTGAGCAG
AGACAACAAAGGCTTGAAGGAAATGAGTAGGAAGGGAAGAGTGAGCCACTCAGACGTCTCTGTGC
TTCCTGCCATCGTCAGAGATGGAATCCGTCTAAGAAAGCTAAAATCCGGAAGAATTAGGACAGTC
GGTTTATGTACACTATCCTTGCTGCTCATGATGCCATGCAGCAGACCTGAAAACTGGTTTTTGTT
TTTTAAAGATAAAACTTTTCCTGGTGCTGGGGAACACGTCTTGTTAACCTTTCAACTATGTAGGA
AGTGTGACGGTTGAATTCATGTGAAGGACTTAAATTTACCCAAAGTATGGAGAATGAGTTAAAGC
ATTCTGTGAACTTTAGAAGCCTCAAGCTGGGGGCTGAGAAACACTGTAACTAGAATTTGGGGTAG
TTTGCTTTAGAAGGTAATTGGAATAGGCCTTTGGATTTTCTAGTTTGCAGAAATGTGTAATAAAG
GCAATTTTGTTATCTTTAACAAACACACAGAACAGATTAGAATGAGCCATTGGAGATGGGGGGTT
GTTTTTACAGGAGCACGTGTGGGTGCGCACACTCCTGATGTCCAGAGTTCAATGTGTGTTGCTAA
CCCTGTTTATTTCTGCTCCAGGCAGGGTCTCCATGAGCCTAGCCAGTCTCTCAGCTCGTGGTCCT
GCCTCCCTTGTTGCCCAAGTTTTGACGCCACAGGCTTGACAGCAAGATCTAGAAAATGCTTGTCT
TGATTTTGTGTTTGTTCATGCTGTGTAATAAAAAGAACAATTGGTTGATGTATTCCTAAATTTAA
AAAAAAAAAAAAAAGCACCAGGTGATGGTGGCTCACCCCTTTAATCCCAACGCTCAGAAGGCAGA
GACGGGTGGATCTCTGAATTCATGGCCAGCCAGGGCTACACAGCAAAACCCTGTCTTGAGAAAAG
AGACTTGTGGGGTTGGGGATTTGGCTCAGTGGTAGAGCGCTTGCTACCCTGGGTTCGGTCCCCAG
CTCCGAAAAAAAGAATAGAAAAAAAAAGAAAAAAGAAAAAAGAGACTCGTAAGCAAGCAAAGCTT
GGTAGTCTAAAGAAATGAGAAATCCTTAGAGCTACCTTAGAGCTAGAAAAGGCAGGACATTTCAG

GCAGAGAGCTGGTACGGCAAGCCCAAAGGCTCAGGGCCCGGTTTATACCATGTAAGGTTATCCTG
AGGGGCTGGAGAAGAAATGCACAGCAACACTAACACGTCATACTGTCTGGCCAAGTATCAACTAC
CATGGCTTTATAGATCCTGCTCTTGAGGAAAGGGGTAGATCAAGGGGTAATCAAGGATAGATTAC
CCCTTTGGCAATAGGACGGAGGGTGGCTAGATCCCTCCAACAGTGTGAGTAGGTCCAAGAGTATG
AATCATCTATGGCTCCTAATAAACACTGCTAGGCTAATTTACCATTGAGCTACATCCCAAATATC
AAAAGTTGTTTTGGGAGAGGGGATGCATGGGAGACAGGTTCTAATGTGAATCTTACTGTCCTGGA
ACTCCCTCCATAGACCGTGCTGGCTTTGAACTTACAGAGTTCTCACAGGAGACTTAACTGCCTTT
GTCTCCAAAGTGCTGGGATCAAAGGCGTGCACCACCACATCCAGCCTTATTTTAATTAATTATAA
TCAATTATTAATTAATTATAATCATAATTTTAATTAGTTTTGATCATATTTATCGATGTATTATG
GAAGTGGGGCCTTGCATGTCATTCTTGTTGGTAAAGGTCAGGAGATAAAAATACTACTTGGTAAA
TAAGAAAACCCAAGTTAAGAAAGATGGAGAAAAAAAAACAATATTATAGTTAAAAAAAAAAAAAC
TTGGTCTTTTAAAAATAAAATACAGGGGGCTGGGGATTTAGCTCAGTGGTAGAGCGCTTACCTAG
GAAGCACAAGGCCCTGGGTTCGGTCCCCAGCTCTGAAAAAAAGAACCAAAAAAAAAAAAAGAAAA
AAGAAAATACAGGGCTGGAGAGATGCTCAGCGGCTAAGAGCACTGACTGCTCTTCCAGAGGTCCT
GAGTTCAATTCCCAGCAACCACATGGTGGCTCACAACCATTTGTAATGGGATCTGATGCCCTCTT
CTGGTGTGTCTGAAGACAGCTACAGTGTACATGAATACATAAATAAATTCTTTAAAAAAATGAAA
AATAAAATACATGTCATATGATTTATCAAAAAAAAAATACTACTTGGACAGGGTTGGAGATTTAG
CTCAGTGGCCGAGCACTTGCCTAGCAAGTGCAAGACCCTGGGTTCGGTCCTCAGCTCTGAAAAAA
AAAATTACTACTTGGAGAAGTAGGTTCTCCCCTTCCACTCAAGTTGTAGAAATCCAACTTAGATG
TCAGGAGGCAAGCTCTCGTACCAACGGAACTTAAGATTTTGGTTTTTGAAGTCTTGTAGAGACCA
GGCTATCCTGAAATCAAGATTTAATTTACCCAGCTCCAAAAAAAAAAAAAAAAAGATTTAATTTAA
AGTAGCTGTTCCATGCCTTTGATCCCAGCACTCTGGACAAGAGAGGCAGATGCAGGTTGGTGTGT
GAGTTTGAGATCAGTCTCAAAGCTTGGTCCACATGGAAAGTTCTAGAACAGCCAAGGCTTCATGA
GATCGTGTCTCAAAACAGCAAAGACAGTGACGATGACGTGATGATGATGAGCAACATAGACTCAA
GCGTGCTAGGCCAAAACACCACTAGATCTGCTCCCTAGCCCCTGACAAGTAATTTGCTAACAACA
TGCATAGTGGTTATTCTTCCAATTTCTCCTTCTCCTTCTCCTTCTCCTCCTTCTCCTTCTTCTTC
TGTTTATTTATTTATGTGAGTACACTGTAGCTGTCCTCAGACACACCAGAAGAGGGCATCGGATC
TCATTACAGATGGCTGTGAGCCACCATGTGGTTGCTGGGATTTGAACTCAGGACCTCTGGAAGAG
CAGTCAGTGCTCTTAGCTGCTGAGCGTCTCTCCAGCCCCCAATTTCTTCTTTTAAAATTACATAA
TCACCACTAGGTGGGGTGGCACATGCAGGCAGATCTCTGTGGGTTTGAGGTCTGCCTGGTCTTGG
TATTGAGTTCCAGGTCAGCCAGAGCTATATTCTGAGACCCTGTCTCAAAAAGACAGAAATAGAAG
TAAAAAAGAAAACGGAAAATTAAAAAACACAGGGAGGCGGTGGTGACACACTTTGATCCCAGTAC
TGCATTTGGGAGGCAGAGGCAGGTGGATCTCTTTGTATTACAGGCCAGCCTGGTCTACAGAGAAT
TCCAGGACATCAAGTACTATGCAGAGAAACTCTGTCTCAAAACACCAATAAACAAACAAACAAAC
AAACAAGTAAAAATAAATAAATAAAAATTAAAAAAGGAAAAGAAAAACGAAAAAGAAAGAAGAGA
ATAAAATTGTATTGCTTATCATGAATGCTCCAACTCGTGTGTTTAGGTCAGAAGACAACTAACAG
GAATCCTTTTTTCTCTGGTATCAAACTCGTGGGTCTTAGGAATCGAACTCACATACTTCGGTTGG
GCGGCAAGCGATTTTACCCGCTGATCCATGACACAGGCCCTCTTTAATTTCTAAAGCCCTACATG
CGGGTCTGGACTTTATTCACGGTGGGTGGGTCTTCTTCCTGTCAGTTTCCGTCCGCAGATGTCCC
CGCCCACCAGGAAGGATCTTTCGGGCTCTCGTCGGCACCCGTCCACCCTGTCTCCACGTGACACA
AACAGACAGGGCACTTCCGCTTCCCGTCCACTCTCCTCACTCAGTGTCTACACCCCCCGTCCCCG
GGTCCCCCGCCCGGTGAGTTAGCGAGCGCCGGGAGGGCGGCGTCGCGGGCGGAGTCGCCCCGGGC
TGACCCTTGCCGCCTTCCTTCTTCTCACCGCAGGTCCCCGCGGTAGCGGAGGCGGGCGCCATGGC
GGAGCTGACGGCTCTGGAGAGCCTCATCGAGATGGGCTTTCCCAGGGGACGCGCGTAAGGGAACC
TCCCCTCTAGCCTGTGGTGGGAGGCCGCGGGCCTGCCGGGCCTCACTGTCACCATGGCTGGTGGG
CGCTATTCACGGTGTTTCTGCCCTCAGGGAGAAGGCTCTGGCCCTCACAGGGAACCAGGGCATCG
AGGCTGCGATGGACTGGTGAGCGACTGGCACGGGTGGAGGAAGTTTGGGGGCCTCTGGGAAAGGC
GGCCTCAAGGCTAACCCCCTGCCAACTTTCTCTGCCCAGGCTTATGGAGCATGAAGACGACCCCG
ATGTGGACGAGCCTCTAGAGACTCCTCTCAGCCATATCCTGGGACGAGAACCCACGCCCTCAGAG
CAAGTTGGTCCTGAAGGTCCTGACTGGGAGACATCTTGTGATTCTAGCTATCTAGTGAGGGCCTG
AGGAAACCAGAATGCTTTCACTATAAATAATAATACTAGTTGCTTGTTTGTAGGATCTGGGTCTG
CTGCTGGAGAAAGCAAACCCGTTTTGACTGAAGAGGAGAGGCAAGAACAGACTAAGAGGTAACTG
TGCAAGTTCAGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTG
TGTGTGTTTTGTTTGGAGCCTGCCTCACTCCTGTCCAGGCTGAACTCTGGATCCTGCTGCCTCAG
CCTCCAGAGTGCTGGGATTACAGGTCTTCACCACTGTGCCCTGTATTATTTTTTGAGACAGGGTC

TAGCTGTGTACCTCAGGCTGGCCTGGAACCTAGGCTAAATGCAACGCCACATTCTTCTGAGTGTT
GTGATCACCATAGCTAGCCCATTAACACACTTTCCCAAGGGTCATGGGTCATCTTCCTTTCTTCT
CAAATACAAACACAAGTCAGGACAGACCTGGCCTTTCCAGTTAGTGGATGTTGGGGGAGTCACCA
GGAAACATCTCATACAGCACAAGACTGTCTAAACTCCTGCGTGGCTGCAGACTCCCCTGAAATCC
CAATTCTCTGGCCCCTACTTTGCAAGTGCAGGGACTGTAGGTATTCACCACCGTGCCTGGCTCTT
GTCTGCCCTTTTTAAAAAAACAAAAAACAAAAAGGCCCCATGCATAATGTATGTGCTCTAACACT
GAGCTACCTTTTTTTTTTTCTTTTGGTTTTGGTTTTGTTTTTTTCAAGCCAGAGTCTGTCTCTAT
CCCCGCTGTCCTTAAACTGGCTCTATAGACCTGGCTGGACTGAAACTCAAGAAATCCACCTGCCT
CTGCCTTCTGAGCACTGAGGGGTGCACTGTCACCACCTAGCTTGCCCTTTTTATGTTACTGTCTT
GGCTTTGTTTTTTTTTTTCTTTTTTTTTTCTTTTTTTTGGAGCTGGGGACCGAACCCAGGGCCTT
GTGCTTGCTAGGTAAGCGCTCTACCATCGAGCTAAACCCCCAACCGGGCTTTGTTTTCTTTTATC
TGTCTTGGAACACAATCCTTTAATCTGTTAATTCTCTGTTTAAACTCACCTTCCCACTCCATATC
CAGCTTCAGCTTTTTCTTCTCTGCAAAACAGAATGTTGGAACTTGTGGCGCAGAAGCAGCGGGAA
CGTGAAGAAAGAGAGGAGCGAGAAGCTTTAGAACGAGAGAAGCAGCGGAGGAGACAAGGGCAAGA
GCTGTCAGCTGCACGACAGAAACTACAGGAAGATGAGATACGCCGGGCTGCTGAGGAGCGCAGGA
GGGAGAAGGCTGAAGAGCTAGCTGCCAGGTCTGAAGACTCATAGGTCACTAACGGAGGAAGAAAT
GAAGACTTGCCTTGCCCATGTCTGACCTATCTTCCTCCTGTCTCTCTTCTAGACAAAGGGGGCGA
GAGAAAATTGAAAGGGACAAAGCAGAGAGAGCCCAGAAGGTGGGTGATGAGGAAGTCTGTGGGTA
TAATGGAGTAGGGGGGTGCGGGGCCGTGGGGGCGTGCGGGCGAGGGGGGGGGGGGGGGCGCGGG
TGGGCGGGGGACGGAGAGGGGGCGGGGCAGGCGGGGGGGGGGCGCGGAGGTGCGGGGGGTTTCTC
ACGGGTGGAGGAGGGGCGGGGGGGGGGGGAGGTGGGGTCGTGCGGTTGATGGTGCGGCGGGGTTG
ATAGACGCCGTGCGAGTTGGCGGCGGGGGGCGGGCGGTGGAGGGGCGGCTGAGACGGGGGGCAGG
GGGTGCGTTGGGGGTGGAGGGCAGTGGGGCGGGTGCGGTTGCTGGCGCGGGCGGCGCGGAACGGT
AGCCGGGGCGCGCGGGAGCGCGCGCGCGCTCGCGAGGGGGTGCGGCCGGAGAGGGGTGCGGAG
GTCCGGTGAGCTGACTGACGATGCCCGGTAGCTGCTGGCGCGTGGGCGACGCGTCATGCCGTGGC
GCGGGTGGGGCGGGCGCGGTGCATGCGCGAGCGTCCTCGGTCTGGCGACCGTAGCGCGCTCTCTG
TCGGGGCCGCGGACCGGCGGTGAGGGTCGGGGGCGGGGGTGCGTGGTGGCTGGAAGGCGAGTGGT
GTCGGGTAGAGGGCGGCGATAGGGGGCGCGCGTGATGTGATAT

SEQUENCE LISTING

<110> Cambridge University Technical Services Limited

<120> Genes

<130> P010490WO

<140> PCT/GB02/00215
<141> 2002-01-18

<150> GB0101300.2
<151> 2001-01-18

<160> 26

<170> SeqWin99, version 1.02

<210> 1
<211> 617
<212> DNA
<213> Mus musculus

<400> 1
gccgcagaaa gggcagaccc gcagcgcgct ccatcctttg ccctccagtg ctgcctttgc 60
tccgcaccat gaaccacact tctcaagcct tcatcaccgc tgccagtgga ggacagcccc 120
caaactacga aagaatcaag gaagaatatg aggtggctga gatgggggca ccgcacggat 180
cggcttctgt cagaactact gtgatcaaca tgcccagaga ggtgtcggtg cctgaccatg 240
tggtctggtc cctgttcaat acactcttca tgaacttctg ctgcctgggc ttcatagcct 300
atgcctactc cgtgaagtct agggatcgga agatggtggg tgatgtgact ggagcccagg 360
cctacgcctc cactgctaag tgcctgaaca tcagcacctt ggtcctcagc atcctgatgg 420
ttgttatcac cattgttagt gtcatcatca ttgttcttaa cgctcaaaac cttcacactt 480
aatagaggat tccgacttcc ggtcctgaag tgcttcaccc tccgcagctg cgtccctcct 540
tgcccctccc tacacgcagg tgtaacactc atttatctat ccacagtgga ttcaataaag 600
tgcacttgat aaccacc 617

<210> 2
<211> 137
<212> PRT
<213> Mus musculus

<400> 2
Met Asn His Thr Ser Gln Ala Phe Ile Thr Ala Ala Ser Gly Gly Gln
1 5 10 15

Pro Pro Asn Tyr Glu Arg Ile Lys Glu Glu Tyr Glu Val Ala Glu Met
20 25 30

Gly Ala Pro His Gly Ser Ala Ser Val Arg Thr Thr Val Ile Asn Met
35 40 45

Pro Arg Glu Val Ser Val Pro Asp His Val Val Trp Ser Leu Phe Asn
50 55 60

Thr Leu Phe Met Asn Phe Cys Cys Leu Gly Phe Ile Ala Tyr Ala Tyr
65 70 75 80

Ser Val Lys Ser Arg Asp Arg Lys Met Val Gly Asp Val Thr Gly Ala
85 90 95

Gln Ala Tyr Ala Ser Thr Ala Lys Cys Leu Asn Ile Ser Thr Leu Val
100 105 110

Leu Ser Ile Leu Met Val Val Ile Thr Ile Val Ser Val Ile Ile Ile
115 120 125

Val Leu Asn Ala Gln Asn Leu His Thr
130 135

<210> 3
<211> 823
<212> DNA
<213> Mus musculus

<400> 3
ggatcacaga ctgactgcta attgggtctt ggttttaggt cttttcaaag actaagcaat 60
cttgttccga gctagctttt gaggcttctg cccatcgcat cgccatggag gaaccatcag 120
agaaagtcga cccaatgaag gaccctgaaa ctcctcagaa gaaagatgaa gaggacgctt 180
tggatgatac agacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaaccc 240
taaaccccgg tgtcaagcgg tccgcacgcc ggcgcagtct acggaaccgc attgcagccg 300
tacctgtgga gaacaagagt gaaaaaatcc ggagggaagt tcaaagcgcc tttcccaaga 360
gaagggtccg cactttgttg tcggtgctga aagaccctat agcaaagatg agaagacttg 420
ttcggattga gcagagacaa aaaaggctcg aaggaaatga gtttgaacgg gacagtgagc 480
cattcagatg tctctgcact ttctgccatt atcaaagatg ggatccctct gagaatgcga 540
aaatcgggaa gaattaggag cttacattgt acgctgccct ggctgtcgac gatgccgcac 600
agcagatgtg aaagctattt tttgtttaag attaaacttt ttctggtgct gggaaatctt 660
aacttgttaa cctttaaatt gtagatagga tgcacaacga tccagattta tgtgaagttt 720
agaagcctca agctgtgagg cccagggctg aggaataaag taaatagaat ttggagtatg 780
tacgttctaa tttccagaaa tttgtaataa aagcattttt gtt 823

<210> 4
<211> 150
<212> PRT
<213> Mus musculus

<400> 4
Met Glu Glu Pro Ser Glu Lys Val Asp Pro Met Lys Asp Pro Glu Thr
1 5 10 15

Pro Gln Lys Lys Asp Glu Glu Asp Ala Leu Asp Asp Thr Asp Val Leu
20 25 30

Gln Pro Glu Thr Leu Val Lys Val Met Lys Lys Leu Thr Leu Asn Pro
35 40 45

Gly Val Lys Arg Ser Ala Arg Arg Arg Ser Leu Arg Asn Arg Ile Ala
50 55 60

Ala Val Pro Val Glu Asn Lys Ser Glu Lys Ile Arg Arg Glu Val Gln
65 70 75 80

Ser Ala Phe Pro Lys Arg Arg Val Arg Thr Leu Leu Ser Val Leu Lys
85 90 95

Asp Pro Ile Ala Lys Met Arg Arg Leu Val Arg Ile Glu Gln Arg Gln
100 105 110

Lys Arg Leu Glu Gly Asn Glu Phe Glu Arg Asp Ser Glu Pro Phe Arg
115 120 125

Cys Leu Cys Thr Phe Cys His Tyr Gln Arg Trp Asp Pro Ser Glu Asn
130 135 140

Ala Lys Ile Gly Lys Asn
145 150

<210> 5
<211> 4925
<212> DNA
<213> Rattus sp

<400> 5
cccccccccc cccccccccc cctcccccc cccccacctc cgacgtatga tggctcctag 60
acgcaacacg aagcggactc cccgcatcat tcacgtagac ccgccttctg ctttccctgt 120
cggggttttg ggaagcccgg cggccctctc ttctcacctt gctccactag cacgcggctg 180
ttttcactga gcccagcact ggctaagtgg agcaccagga gtttcaggct atccttcaga 240
gggcaaggtg tagtccatgg tgggctacag gagaccctct ctctccgtga gtacagagag 300
gcaaacccaa gccagacagg ggtgatgatt aggaacatac cttcgtcggg gagaaaatac 360
cggttcatat aggaataaga ggaaccagga ggtagttaag gctgtggtgt ctggttgcgg 420
ggtttttgac tctcaacaac cacgttcaga acgtgctgag tttttatgat ggtgtagaat 480
ttccttatca gcaattggtc tccgcggtgt ttctttttct tttttaattt tttaagtata 540
atttggtgtt tgaagcaact gtacttggac tagaactccc tgtgtaatcc agaatggaat 600
cccaaatcct aggattaaag gttttagtgg gctgcagtgt tgggtggggg ttgttttgat 660
tacgttgtag cccaggctgg gctcaatctc aatcctcctg cctctgcctt ctaaacgcta 720
ggattaaaag tgctgcgcca tgatcctgct gtagctttat ttttatttat ttatttattt 780
attttggctc tttttttttg gagctgggga ccgaaccgag ggccttgtgc ttcctaggca 840
agcgctctac cactgagcta aatccccaac cccagtgtag ctttatttt aagaacagga 900
gtcttgtttc tcaaaacagt ttctctgtag ccctggttgt cctggaactc cgtaaaccag 960
gctggtttgg gactctgcct ttaaaacact gggactaaag gcggtaccac ctccgtgggc 1020
tacaccggaa tcttttaagc ttcatttgaa ccggggcttt ttctttttct cacccacttt 1080
ctggaagcga ttttcctgct aaatttccat tcctggtaaa tgactctgag gggaaatagg 1140
aacccagaat agattgagcc gggggctacc tgggaccccg cactccccac cccccagccg 1200
ctgttgaagc tctttgcctg aggggcctcc gggtttgata cctcctagca ctccgggctg 1260
agggcgtggc tcgggaggag ccattccttt ggagaggaaa acaactgctg gccttgaatc 1320
tgccctaata cctgacagtt acatgggacc tccttatttc cacaggattc tttagtcttt 1380
gtttgggaga ttttcaaatc ttgagactgc tcaacccttc ctggcctaac actcacaagg 1440
ccaggctaga cccaaattct gtcaacccct tctgtgtcca aaacggtggg tggctagctg 1500
gctcaccctt ggtgtcactt tgctttaaca ttcggaaaag ttgtggtaag tttcctgtat 1560
aaaataggac catctactgg gtgtggtccc atgtaaagca aggttggttt cccaaaatac 1620
cctgtttaca tagatgtccg gaagcattgg agcaggtcaa ttagatttag gtggaaacag 1680
cctgtttttg gaaagctttc cagggcggaa aatgaaccca gaggcactat tgggcaagcc 1740
ctccggctaa gcaacacaat tggctgcagg ggtctctgga agaggtgtga gacaagagag 1800
aatatgcagg tttcaggacc tctgaactag agttaggctg ctgtaacatt gtaacattgc 1860
tgtaagcaga acagcccatg gtaagaagct cagtggatct ctacaaacac taggatatct 1920
gctcagggtt tatgaccagg ccctgtgcat atggtttgct tcttgttggc ccctctcttg 1980
aagaggggtg attatctgtt acccacttcc ttgtttctct ggggtattac cttgcaaaat 2040
gcaaaatgat atacttcact aatgtctcca tcttctgttt cagaaatcct acaaccagaa 2100
acactagtaa aggtcatgaa aaagctaacc ctgaacccca gtgccaagcc gacaaaatat 2160
catcgtcgtc aaagggttcg tctccaggtt aagagccagc ctgtggagaa cagaagtgaa 2220
agaatcatga gggaagttca aagcgccttt cccaggagaa gggtccgcac tctgttgtcc 2280
gtgctgaaag accccatagc aaggatgaga agatttgttc gggtgagttg cgtttgtggg 2340
cggggcatag atctaagagc aactctagcc tcaggaatgg cacctaggtt aaacagggaa 2400
tgtagacaag gatagtgact acctgtgatt cccagctcaa gaaaacaagc tccaaggcta 2460
tcctctactg cgcagtctga agctggccag agctatatgc aaattgataa gtcagtataa 2520
catttatttt tggattttca gactccctcc ccatagtcca aactggccct ccagttcagt 2580
ccacggtcct gcttcttccc cggtgctagg cttttgagtg ataaggctga cttagactgg 2640
atctcagagc tgaagtggac ctgttagtct ttgtagacca ggctggggtg gtttctgctt 2700
tctcagcgcc tagctcacat agtaggcatt ttaactttgt cttaatagta atttgagtaa 2760
ttttgttttt ctcttgaaga ttgagcagag acaaagacag cttgaaggaa atgaggtaaa 2820
tgcatatgga tgggtagggt gtctatggat gggtagggtg tcttgttttt actgtttcct 2880

tagacaagga gtgtgtatgt ggagagttac cttctcaaca cagggaatct ggttattaaa 2940
gcagtacttt aaaaataaat aaaataaata aaataaaaat aaagcagtag aaggggattt 3000
acatttcttt tgagttgcaa tatcctgatt aacatttttc tttcagagac gagatgagcc 3060
attcagatgt ctctgcactt tctgccatta tcagagatgg gatccttctg agaatgctaa 3120
aatcgggcag aaccagaaga attagggcag tttgaattgt acaccgtcct tgccgttaac 3180
ggtgccatgc agcagatgtg aaagctgttt ttttgtttaa gattaaactt ttcttggtgc 3240
tggggaaatc tcttctaatt gctaaccttt aaattatata ggatgtgtga catttggatt 3300
catgggaatg acagatttac ccaagaattg agcatgagtc aaagcctggt agtttgattt 3360
agaaggtaat tggaataaat ctttttattt tagattttct agtttgcaga gaaatttgta 3420
ataaaggcaa atttgttatc tttaataaat acagaacaga ttagaatgag ccattggaga 3480
tgggggactc gtttttaca ggtgcatgtg tgggtgtgtg atgttcagag ttcaatgtgt 3540
gctaccctgt atttctgctt gaggcaaggt ctccatgagg cctagctggt ctaactcctg 3600
gtcctgcctt ttgttttccc ctgagttttg acaccatagg cttgtcggca agatctggaa 3660
gaggcttgat gtttgtgttt gtgctgtgta ataaacaatt ggttgacata ttcctaaagt 3720
gtggcactgt attgacctgt ctgtctcatg aggaagttaa tgaccggagc ataattgtat 3780
gctttatttc ctgagagaag tgtcaggaaa ggaggagtta ggaagaaagc cccaggctgg 3840
ggttaagagc actggctgct tttccagagg tcctgagttc aattcccagc aatcacctgg 3900
tggctcccga acatctgtaa caggatccaa tgccctcttt tggtgtgtct aagaactccc 3960
taggcatgca gaggattttt gtttttgttt ttttttttct ttttttttct ttcgtttttt 4020
tcagagctgg ggaaccgaac ccagggcctt gcgcttgcta agcaagcgct ctaccactga 4080
gctaaatccc caacccctac aatggccttt ttctacctgc ttttgaatta tcaataaaag 4140
actggggcaa aagaaaggct ggagtgaatg agagagaaca tgtgaagagt aaatgagaga 4200
gagcatgagg gaatgaatga gagagtgaat gtgagaacga atgtgagagc gagtgagaga 4260
acatgagaag aacacgttaa gagtgagtga agagagaatg tgaggtgtgt atgaagattg 4320
tgtgtggggt tggggattta gctcagtggt agagtgcttg cctaggaagc acaaggccct 4380
gggttcggtc cccagctcca aaaaaaagac ccaaaaaaaa aaaaaaaaaa aaagattgtg 4440
tgtgtgtgtg aaaggagagt gcatgtggtg tgtgtgagat atgtgcaagg tgtgtatcaa 4500
gagtgtgtgt gagagtgaaa gggtaatgaa cagaggtgtg catgagcgtg ggagtttgag 4560
aaaagaaaac agcaataaaa aaaaaagcag agtgcacgag agaatgcaga gtgtgtgcaa 4620
cctcaagctg agacagagac agagagaaag agagagagag agagagactt taagccttga 4680
aattacctgt cagtttgtac ccaaatagta gtctgtgtat atttattttg agccttccag 4740
atccctgctt ccagtggaga actctgattc tatgttgagg ctggaccctg gcaatagtgg 4800
gcttcttgaa aaatagtcaa aggaaacagt gctacaccat ggacttaagc ctttagactc 4860
agttctggct tcaagagcag ctgtcagaaa ataagtgatg aactacttgc agtcgaactc 4920
gaatc 4925

<210> 6
<211> 1444
<212> DNA
<213> Rattus sp

<400> 6
ccaggattca gacgagctag gcctcatgca tggagacctt gcctcaagca gaaataaaca 60
gggtagcaca cattgaactc tgaacatcac gagtgtgcac acacccacac atgcatctgt 120
aaaaaacgag tccccatctc caatggctcg ttctaatctg ttctgtgtat ttattaaaga 180
taacaaattt gcctctatta caaatttctc tgcaaactag aaaatctaaa ataaaagatc 240
tattccaatt accttctaaa tcaaactacc gggctttgac tcatgctcaa ttcttgggta 300
aatctgtcat tcccatgaat ccaaatgtca cacatcctat ataatttaaa ggttagcaag 360
tagagatttc cccagcacca agaaaagttt aatcttaaac aaaaaaacag ctttcacatc 420
tgctgcatgg caccgttaac ggcaaggaca gtgtatgatt caaactgccc taattcttct 480
ggttctgccc aattttagca ttctcagaag gatcccatct ctgataatgg cagaaagtac 540
agagacatct gaatggctca actcttctct catttccttc aagctgtctt tgtctctgct 600
caatccgaac aaatcttctc atccttgcta tggggtcttt cagcaccgac aacagtgtgc 660
ggacccttct cttgggaaag gcgctttgaa ctcccctcat gattctttca cttctgttct 720
ccacaggctg gctcttaatc tggagacgaa ccctttgacg aagatgatat tttggccgat 780
tgagatagaa tatcaaaaca acatttaaca tttaaataac ttaacgatat acacaccttt 840
ttttttttca cctccccaca cagacaaaaa acaaccctat tttttcttta caaccccgcc 900
taagcaagcg aagcattagt aactgaccaa tcatagaaag gaaacaccac cagaccacat 960
caaataaaat aaaatcaccg cccaacccca cccctataaa aaacccgccg accacaccac 1020
atatactccc ccccccccgc accatcacta catcaccctc tccacccatt cccacctccc 1080

ccccccaacat taaccccacc ccatcacgga aacccccaac accaacaaat aaattagaca 1140
catcgcatta cataaattga cacaagaccc accccaaaag agcagcaaag attagagcca 1200
catcctcggc ccaacacaat acactcaacc tgcatagtat ctatctccac cccaacctag 1260
aaacaaaaat ctaatcagca ccaggcaccc aagtatcacg cacactcaaa aacataccca 1320
ccaattaaac acgccccacc cacccaacaa cccacccgcc tgacaacaca cttcggaact 1380
accctcaaca tcaccaaaag caatcgcaag ttacgatgac tccaaccacc tcactctctc 1440
attg 1444

<210> 7
<211> 7656
<212> DNA
<213> Rattus sp

<400> 7
ctgcaagtag ttcatcattt acagatcaaa agaaagaaga ataaaaaaac aaggtgtcat 60
gatccctcca aaagagtgga acacttcaac tgccagatcc aagatactga aatgggtagc 120
atgctggaga aagaattcaa aagttaggta gagaatctgg ttgagcagag cacttgcttt 180
tcttccagag gatctgagtt caagtcccag gacctatatc acagttttct gtaactctag 240
ctccagaggg tctgacactt ctgttcactg tgggcacctg cattcacaga caaacataaa 300
gtagttcatc acccttttca cagaaaaccc acagcatgtg aggaaatccg ggtctctgcg 360
caatgccccc acagcagaag gggggagctg gagagatggt tcatctgtta gcccatttat 420
tgctcttgaa gagaacccag ggtcatccat agcacccata gcagctcaca accatctcca 480
gttccaggag atccaatgcc ctgttgtgac ctcaggtacc aggcatacac aatgaacctg 540
cacacataca aaagtccata gagccatagt taccattgtg agctctgaga accaaatccg 600
tgttctctgc aagagcgaca tgcacgctga gaaccaggca cctttcccac tgcctcttga 660
gacaagatct cactatgtag ttcacactgg cttccgactt gccaccatcc tcctgcctct 720
gcctataaag aatgctagga ttatataggt acaaaatcac acctggctgt taaggttttt 780
ctggctgttt ttttttcac ccccatgaat gattttgaaa atagttgagc tgtttacatt 840
aataaaacaa aatcagatgg agactatatg tcattattca tgaatcaaat gactagtaac 900
aatactgagt tatttttata gcttttctat ttttgtttta aattttattt tttccttttt 960
ttttttttc tttttagttt tgctttgttt tgttttgagc aggctctcac tgtgtagtcc 1020
tgggtgatct ggaacttact aggtaaacaa ggatagcctt aaactcaaga aatttgcttg 1080
cctctgtctc cagagtgctg cagttaaagt tgtacaccgc catgtttagg tgtttttatt 1140
agtgtgtgtg tatgtctgtg tgtctgtgtg tgtgtgtgtg ttccccggag gccatgtagg 1200
cgcatgcttg aaccagaacc agaggaagtg tgtttacagt taccctggga ggccagaaga 1260
gggcaggaga tgccctggaa ctggaatttc tggtagtggt taactgccta aagtgctggg 1320
acctaacact cttaacttct gagccatggc tctagtcctg gggtcccccc tccttctttt 1380
tatgactatg cagactatac aaatttattt tatatattaa ggtctacggg agcagtttgc 1440
cctggcagag agtatatata tctcatggtg acatacatat ctcatggtga cacacatatc 1500
tcatggtgac acacatatct catggtgaca tacatatctc atggtgacat acatatcatc 1560
tcatggtgac acaattgagc attgagagca gctacagacc gattagatca gacttattaa 1620
attcttgcca agtatgtggt gacgcaggcc tgcaatgcca gtaactttgg agactgagcc 1680
aagcagatca cctgagccta gagactcaag gccaccctgg acaacataga gatatcctgt 1740
ttcaaaatga aacaagctaa gttctttgta catagcagcc tctctattga ctgtggcagg 1800
gcagctgaca gtgttctcac ctagtcacag atgttctttc tagagggaac agacccgatg 1860
aatacaaaca tttttagctc aagtaaaagt ctatactatg aaggaactac ttcttcaaac 1920
atcataacat ttaaaatgag agattttaca aacctttttt taaagattta tttgtttatg 1980
ataagtacac tgtcactgtc ttcagacaca ccagaattgg gcatcagatc tcattacaga 2040
tggttgtgag ccaccatgtg gttgttggga attgaactca ggacctctgg aaggacagtc 2100
agcactcttt ttttttttt ttttttttctt tcatttttc ggagctgggg accgaaccca 2160
gggccttgtg cttgctaggc aagcgctcta ccactgagct aaatccccaa cccccagcca 2220
gtgctcttaa ctgctgagcc atcttcccag ccccaacatc aatttttggt ctagatgttt 2280
taccctggtg ctgccatgcc atctcgatgg cccttgtggc aggggtgccg gtaaggcagc 2340
ccctagggca tgagttaggg agagcaaaac ctgacccaga acctgactgc catgaagtga 2400
tggagatgcc gtttgagtac atggggtttt ttggtggttg ttgttttgtt ttgttttttg 2460
tttttgttga cttgacacat gctacagtca tctgagagtg aaacttaatt gagaaaatgc 2520
ctctgtattt tctccggccc cctaagttgc ttttgatgag tgtattttta tcacagcaat 2580
agaaactcta actaagatag attggtatta gaagtagaat attgctgtaa cagaccctaa 2640
ccatgttctc ttggggagga ttgtgggaag actttggaac ttggaacttg gaacaggaga 2700
agccattggg tacttagagc ttaatgggct gttctgtgga gcttggaaag gtgctggaga 2760

aatgcggatg atacttgtaa agtttgagag cacctcaaag atgttcagga cagtgtgtgc 2820
aatacatttg agttaagaat ctatggtgtc tggtcagctg gagctgaaga ttcagctgtg 2880
attaataaga ccactaaagt aaaacttttg ctttactggt acaatcagtg ctggttagct 2940
aagggttgac agatgagcag tgactaataa gagactggca tcagaaactg atccagagag 3000
agccaaggct gcatctcaaa ctggcagcca aatttgatca catgtaagaa tctccctcat 3060
gggggttggg gatttagctc agtggtagag cgcttgccta ggaagcacaa ggtcctgggt 3120
tcggtcccca gctccgaaaa aaaaagaaca aaaaaaaaaa aaaaaaagaa tctccctcat 3180
gttacaggct ttggtggcat gagagcttta gggttgaagg atcatggaga gcagccgagg 3240
ctccgcacca tgtggcgggg cagaggtaca gcccagttac cacagagaca ccagcatatt 3300
tggaggtgcc aggatcatgg ataattgcct aagacaggag gctggcctga ctttgtagga 3360
caagctccat gatctgtttg gcaggactgg agaaacagag ctgtaaggga aaatgaggac 3420
acagctgttc caagatatga ttggagagaa gggtttcatt gcagatctga ggaagaggac 3480
agccagagag gcatctggaa gggtccagat tgaactgggt catgagagga gagagggcta 3540
agaggaccaa aagagcctgt gaccaaatta tcagggttat agagaaaaca gatgcttggg 3600
aaagagaagg gggagcccct gagctggaga gatttaaagt agggggcagg atgagaagtg 3660
gctggggcag gatgagaagt gctgaggagc caaaggcact cagtgaacct agaggccaag 3720
gatacatttt gacatgctaa taggcatttt agtcatttgt cctgcatttc tttaggacag 3780
gccaagctgc ctgggtcatt gtgagtccca gataattctc ttgaaataaa atgtttttta 3840
aagagaggag gggaaggttg gggagggtgg tctgaagtta agagactttg gagtattaag 3900
acattggata ttttagagaa aattttgaac ttttaagaag actgaccttt taaagtgttt 3960
gaatttttaa agaccaggat acatcagggt gtagggacac atgaccctgt ctcgcccccc 4020
ccccccaaaa ttataatttt tttaaaaaga ctgtgggagc tgggtggtgg tataggcctt 4080
taatcctagc acccaggagg cagaagcagg cagatctctg agtttgagac cagcctgatc 4140
tatagcatga tttccaggac aatcaaggct acacagtgaa gcctatctta gaaaaaaaaa 4200
gattgtagtt ttagtttgcg atgtatttta tattgaggtg ctgacattaa tatgaaatct 4260
ttgtgagtgg gcaagaaaat aaagactaaa gctgaatact gatgccactt gtgtgtcaga 4320
ttgacaaggg gttttggaat ttttttattt ttttatttt ttttaggaat atatcaacca 4380
attgtttatt acacagcatg aacaaacaca aaaatcaagc cttttccaga tcttgctgac 4440
aagcctatgg tgtcaaaact cggaaacgag aggcaggacc aggagttaaa agaccagcga 4500
ggcctcatgg agaccttgtc tcaagcagaa ataaacaggg ttggtagcac acacgaactc 4560
tgaacatcac gagtgtgcac atacccacac atgcacctgt aaaaacaaat cccccatctc 4620
caatgtctcg ttctaatctg ttcttgtatt tattaaagat aacaaatttg cctttattac 4680
aaatttctct gcaaactaga aaatctgaaa gatctattcc aattaccttc taaatcaaac 4740
taccaggctt tgactcatgc tcaattcttg ggtaaatttg tcattcgcat gaatccaaat 4800
gtcacacatc ctatataatt taaaggttaa caagtagaag agatgtccct agcaccaaga 4860
aaagtttaat cttaacagaa aacagctttc acatctgctg tgtggcacct ttaacggcaa 4920
ggacggcgta caattcgaac tgccctaatt cttctggttc tgcccgattt tagcattctc 4980
agacggatcc catctctgat aatggcagaa agtgcagaga catctaaatg gctcatctct 5040
gttctcattt ccttcaagct gtctttgtct ctgctcaatc cgaacaaatc ttctcatcct 5100
tgctacaggt tctttcagca ccgacgacaa caatgtgtgg acccttctct tgggaaaggc 5160
gctttgaact tccctcatga ttctttcact tctgttctcc acaggctggt tctgaacccg 5220
gtgacgaagg ctgtgatgac gatgatattt tggccacttg gcactggggt tcagggttag 5280
ctttttcatg acctttacta gtgtttctgg ttgtagggtt tctgaatcat tggggtgagt 5340
cctctccacc tttcctctga gatctatcat ctgagtttct ggatacacaa ctgggtcaac 5400
tttctgtgat ggctcgtcca tggcggtggg cagaagcctc aaaagccagc tccgaacaaa 5460
attgctagct aatctttgga aagacctaga ctttggcccc aactagcaga ctgaagtgct 5520
ggaatttttt ttttttttt ttttttttt tgtaatcaac ttgaaaacac aattgagaaa 5580
atgcttccat aaggttaaat ccttgtgcca ccatgcctgg acctaagctt ttcatggcca 5640
ctattcctcg aggtctggat cagaagcttg tgtatttcat ttccggattg tcgttcactc 5700
cagattaaaa gtccaaatga aagcaatagc catgtaataa tgcctagata taactcttcc 5760
ttgttcagca gcaaatgcat aagcaataag cttagctggg tgggatcttc caaagctact 5820
ctgctctttt tcttcttgga cataggattc agcaacattc tacttcttga tgccccttta 5880
ttctttgaac catacatttt tacttttcct ttcgtagctt cttccttttc atcaaaagat 5940
tcttcataag agtgaaattt ggggttagag agatggttca gtggttaata gcactgactg 6000
ctcttccaga ggtcctgaat tcaattccta gcaaccacat ggtagctcat aaccatctgt 6060
aataggatct gatgccctct tttggtgtgt ctgaagaaga cagcaacagt actcaacata 6120
cataaaataa aaataaatca acatacataa aataaaaata atttttaaaa aaaaaaggtg 6180
aaatttaacc acacaacaga atttatgcca ggcttgtttg agacttttgt caaagcaatt 6240
aatctaaatc tcttcacctt agcctcaggt agactctctg gacaatggca aaaagcagcc 6300
acattcttca tcaaaatatt acaagaacgg tctctcagcc acatactaaa attcttctct 6360

gaaacttcta gagccaggct tccacagttc aaaccacctt cagcaacaaa gtcttctata 6420
ttcctacgat gatagccctt taagccccac ttaaagcatt tcactgaatt ccaaatctaa 6480
agtctccaaa tctatattct tccaaataaa agcatggtca gacctaccta tcacagcaat 6540
atcccagtcc ctggtaccaa cctctgtctt agttagggtt tccattgttg tgaagagaca 6600
ccatgaccaa agaaacactt ttttttttt taatatttat tttatgtcta tgagtacact 6660
gttgctgtct tcagacacac cagaagaggg catcagatct cattacaaat ggctgtgagc 6720
cactacgtag ttgctgggaa ttgaactcag gacctctgga agagcagcca gtgctcttaa 6780
ccgccgagcc attttctcca gtcccaaaga aacacttata aaggacaatg tttttttgg 6840
ttttttttaa aggtttattt attttatgta tatgagtaca ctgtagctgt cttcagatac 6900
accagaagag ggcatcagat cttactatag atggttgtga accaccatgt ggttgctggg 6960
gattgaactc aggacctctg gaagagcagt cagtgctctt aacccccttag ccatctctcc 7020
agttctaaag gacaatgttt aatcggggct ggctcacagg ttcagaggtt cagtccatta 7080
tcattgagac aggagcgtgg cagcatccag gcaggtgtgg ggctgaagga gctgaaagtt 7140
ctacctcttg atccaaaggc agaccaaaaa aaagactggc ttacgggctt accataagca 7200
gctaagagga aggtctcaaa gcccacccta cagtggcatg ttctccaaca aggccacatc 7260
tcctaatagt gccactcccc gggccatgca tattcaagtc gccacaccca ctgagccatc 7320
tctccaacct gctccagacc atctcccctg cttttaccta agctcattag gcagcaatat 7380
gcctcttatt gtttgagctc agcatcctgt ttttcaaaag gctgcttgtc atcacagtgg 7440
tttgttccac aactctccca gtttctttgt naaaacacca atgcctagag agatgctctt 7500
ctgtacatat cgcatgtgca gaagaaaggg tgccagatcc tttcatgtgg accntgtcat 7560
gtctttaccc acgtagtcgt ctgctctgac tcttctcgag atgctganaa ctgattgagc 7620
gtaggatgct ctgggtatgt gcatgggaca attttg 7656

<210> 8
<211> 2161
<212> DNA
<213> Rattus sp

<400> 8
cgaaggacgg taaggagaga agaggggaga ggatcaggac tgaggggaga tatgcactga 60
acgggggagt tagtaacgag gaaaagatag ggagaaaagt gggagaaaaa aggccgggga 120
gggggagggc atggaaagaa aggcgggggg gggagataac atgcgggggа agtaagaggg 180
gggggtaag gagggtacag gtagcacagg tgggggggaag agaggggagg gggggaatgg 240
gaaaggtgag ggtgggtggg ggagttttcg gcgaaagggg ccggagtgtg gattatcgcg 300
tggaccagaa cgggggaagg gccacatttg ggtgggcggg aacagaaagg aaatcttttt 360
aaatcggttg ggtcgcaggg tgggtggaca ttgagaaaaa aatcatcaaa gcccctaagg 420
agcatttgtt tcggagttat acgtatggat attttattat atgggacgag agataaagaa 480
tacttcttaa gtaatccctt taaaaataat gtcaggctgg agaaatggtt tcatgggtaa 540
gcaagtgtga gagatgagcg cagaccccca ggacctgtgt agacttaatg cagaggtgga 600
tgcacgcctg taatctcagc atgcctacag ccagatagga gatggggaca gagaagtgtg 660
ggggccaact agcctggtgt ctacagcctg gtgtcaacag cagcctccta cctcaaacaa 720
ggtggaaggt aagggctgat acctgagatc gttgtctgac ctccacacac attgtgctta 780
tactttacac acatactcac actcacacat acatacacat atatacctgg tctccattag 840
gcttctattg ctgtgataaa gattacgacc gaggtctttc caaagactaa gcagttttgt 900
ttgcagctag tttttgaggc ttctgcccac caccatggag gagccattag agaaatcgac 960
ccagttgtgg acccagaaac tcctcagacg aaagatgaaa aggacgcatc cgctgattca 1020
gaagtcgtaa gccagaaaca ctagtaaagg tcatgaaaac gctagccctg aaccccagtg 1080
ccaagcggtc agcacatcgt cgcagcctcc gtctccggat tcagagaaga cctgtggaga 1140
acagaagtga aagaatttcg agggaagttc aaagcgcttt acccaagaga agggtccgca 1200
cgttgttgtc ggtgctgaga gatcctatag caaggatgag aagacttgtt gggattgagc 1260
agagacaaca caggctggaa ggaaatgagt agaaacggaa gagtgtgcca ttcagactca 1320
ctgtgctttc tgccattatc agagacggga tccgtctgag aacgctaaaa tcgggaagca 1380
ttaggacagc ttagattgta cactgtcctt gtgttaatga tgccatgcag cagacctgaa 1440
agctggcttt tgctttttaa gattaacctt ttcctggtgc tggggactct tctaacttgt 1500
taacctttaa attatatagg gtgcgtgatg tttggattca tgtgaatgac ttaaatttac 1560
ccaaagaatt gagaaggagt caaagcattc tgtgaatttt tgaagcctca agcccggggc 1620
cgagaaacaa tgttaataga atttggaata gtttggttta gaaggtaatt gggatagatc 1680
tctgaatttt ctagtttgca aaaacaaaaa caaaaaaaaa gactaaaaaa acaactgggg 1740
aggagtaagg ttatttcagc ctccatgtct tgatcccagt ccatcatgaa aggaagtcag 1800
gacaggaact caagtcagga ccgtggaagt aggtagcatc tgaagcagag acttctggga 1860

tgaaagcgct gcttcctgac tcgctcccca caaattggtc cctgagcctt cttgtccacc 1920
ctcggacccc ttgcctaggg ttggcaccac ccacaatggg ctgagccttc ccatgtcaat 1980
cactaattaa gaaaatgctg tacagcgttg cctacaaacc agtcttaagg aggcgttttc 2040
tccattgtgg ctctctcttc tctgataact ctagcttgtg tcaaattgac aaccaaccag 2100
ccagcacaca aacanttaaa aagatagaaa taatgttagt gnntcncatc gagcaagagt 2160
c 2161

<210> 9
<211> 21688
<212> DNA
<213> Rattus sp

<400> 9
tttatgattt taaaagttta attctggact ggagaaatgg ctcagtggtt aagagtagta 60
actgctcttc cagaggtcct gagttcaagt cccagcaacc acatggtggc tcacaaccat 120
ctgtaatgag atctgatgcc ctcttctggt gtgtgaagac agctacagtg tattcacata 180
cataaaataa ataagtaagt ctttaaaaaa aaagtttaat tgtgtgtgtg tgtgtgtgtg 240
tgtgtgtgtg taagcttgca aataagagga caactttgag gagctgatac tcttgttcta 300
ctgtgtaggg accaacagtt gaactcaggt tgtccggctt atgcaacaag ctttttttact 360
tgtcttcgcc agcccaccag tcctgtgtaa agctgcatac agctcacgtt gtaacatgct 420
tgtctagtac ttgcaggaca taaactagca agcacttggg tgaaaacggg aggatcagaa 480
gttcaatact atccttggct acttaacaag tttaaggcta taggaatagg gatataggaa 540
accctaagaa agtaaaattt atttactgtg ctttaggtga tcaaacctac agctttgcat 600
gtgatagaca aatgttctac cactaagcta catcctcagt gttctttatt atctattttt 660
ttaataaatc ttttttttta aacattgttg tgagccaccg tgtggttgct gagaattgaa 720
ctcgggacct ctggaaaagc agtcaaggaa gccagagtgg ccggaactcc tgaaaatgga 780
gtaacaacag gttgttgtga gggtaattga actcaggtcc tatgcaagag caacaagagg 840
tcttagccct ttattatttt ttaatatcta attatttttt tatttttta tttttattta 900
tttattatat ataagtacac tgtagctgtc ttcagataca ccagaagagg gcatcagatc 960
tctttacaga tggttgtgag ccaccatgtg gttgctggga attgaactca tgacctctgg 1020
aagagcagtc gggtgctctt aaccactgag ccatctctcc agccctaatt atttatttta 1080
tgtatgtgag tacactgtag ttgtcttaag acacaccaga agagggcatc gggtatcaga 1140
tcaccattac agatggttgt gagccaccat gtggttgctg ggaattgaac tcaggacctc 1200
tgaagagcag tcagcattct taacgactga gccatctctc cagcccaacc ccccctcca 1260
ttttttttaa taccaaaaag gagcttcctg caagagaaca tggccatata catccacccc 1320
tctttctttg aggttttgat agtgctgctg ctcctgctgc ttggaaaaga aaatcctcta 1380
ggactaagct aaaagagcca gatggatgga attgcggttg ccatggcaac accatctgag 1440
gatactgagc ctgctgtctc tcccagttat gttgacattt ggtgtggttt ccatgcttga 1500
acactgaagt gtctgtccac ctatgaaaga gaggccgttc ccagaggtct taatttatct 1560
gctccatcag tagcatttgg actgcttaca tttatgtctg gacaaccatt ggccaggagg 1620
tagaagagga tggaggaagg cccagacctg gctgggtact atcggatcta gtgaagctgt 1680
atagaatctg tctggggttt atttactccc aactggagca gaggcaggtg ctcaggaagg 1740
cagtaatgag atcgacctta ccacaggaaa taaagtgact actgtggata ccatctggga 1800
tggatcaccg ctgagccact ccaccctcag aacaaagcta ccatatcgtt aaagtgtcct 1860
gagctcaggg gaaggcccct gctgcctgtg agtagagcca ggtaacctta acaagcccta 1920
tctacacttc atcttaaggc attctgttac atacaaagaa ttctactctt taatgagcag 1980
actttaaaaa aaatgagcca acttacactt tcagaagttt gatccttgat tgcacatgcc 2040
tgagacagat ggccagtctc aaggacaggc ctcccacact gaagttagtc ttcagcagta 2100
tgtcatgtca cctaggcaac caataagagc tcacctaaga aatttccact ttacctggta 2160
aagagcgtat cttccctccc tttctctcca attagcatcc tcacttccag acttccctac 2220
taccgacttt aaaagatcaa agccaggcac gatagcacag gctgaggtcg gaaggcagaa 2280
gccagaaaga tctatgtgat tcccaggcta cttagcacca cacagttgag accctgtcta 2340
acaaatggag gtgggaggca tggcagtaac ctgaacctac aaatttatca aaatttcaat 2400
taagaacatt ttgttttgtt tttgaggcag aatctcacta cgtagagtgg gcttacaccc 2460
agttccaatt aagaacattt taagggctgg agagatggct cagctgttaa gagcactggc 2520
cactcttccc aaggtcctga gtacaattcc cagcaaccac atgatggctc acaaccatct 2580
gtaatgaggc ctgatgccct cttctcttgt gtctgaagac agctacagtg tcctcattta 2640
aataaaaaaa cattttaaat agaaaatcca acagggaggc tgatgagaaa cgacataacc 2700
tttgtccagg agtgtggtta aggggaatgg aaccatagta gagtccattt ctttttctct 2760
tttgagccaa aaaagtttta tttattcatg tcttccattt gaagtactcc ttggtggcat 2820

cctaagcctg agattctttg ccatacgtag ttcttaacca ctacccaact gcaaccaact 2880
gttttctgtg gcatccctct tgatgacttt tacacagggg ttggggattt agctcagtgg 2940
tagagcgctt gcctaggaag cacaaggccc tgggttcggt ccccagctcc ggaaaaaaaa 3000
aagattttta cacgggcaca cccactccac tagtttctca tgatcaagta taatcagatt 3060
gatctggtgc tcggcacaaa gtgcctcctc cagctcgaca cacacgagct catcacagtc 3120
ggattcgagc acacagatgg gtttggcact tgtctaaggc ttcaggagct ttgtgtttgc 3180
caacgtgctg ggctatcgtg gatgagggcg gtcttcagca cctcttgtag agcagtgttg 3240
acatccacac ctccagtggc agtgccctgc tccgctctcg gaagctgagg tggaatagca 3300
agtcagtttc ttctctcatt tcccagacac cattatggat gcctcagtgt cagctgttca 3360
tttgtcactt acttttcaca attgtgttat tattattgat agattattgt ctctgtcact 3420
agctaccgag gcagggtctc acaggactta tccaattgtt tctgcctccc tcgagctaag 3480
cctgaaggca tatatgaatc atctcaccaa gcagcatcag cttttaagag tttctgaacg 3540
tcaacacgtt aacactgggg ccatattatg tacgatgtaa ttaatcctcg agcaactggc 3600
cacacagccc taaaagaaaa aaaaatccag aaccaaacaa accaaaaaca ggcacgaatg 3660
gtggcacaca ccttcaatct ttacacttgg aaggtggatc caggaggagt aggaattcga 3720
agccggccta gagtaccagt agttgaaggc cagcatctgt ctcaaagcaa acaacgataa 3780
taaagtactt gtttcagctg ggaggtggtg gtacattgtg gagggagagg cagaccttga 3840
acactgggtt caaggccagc ctggtctaga gatcagatcc ccaaaacagc cagggataga 3900
cagagaagcc ctgtctcaaa acgtgaggct ggagagatgg cttagtggtt aagagcactg 3960
actgctcttc tagagatcct gagttcaatt cccagcagct atatggtggc tcacaaccat 4020
ctgtaatggg atctgatgcc ctcttctgtg tgtctgaaga cagctacagt gtacttatat 4080
acatgaaata aatctaaaaa taataataac gtgcacaatg ttctgcctgc ctatatgcct 4140
gcaagccatc cctccaaccc aataaataaa tattaaaaaa aaaaaaaagc acaaaaccaa 4200
accaaaagta aaataaataa acaactttta ttcctaccaa gagaagacac atttccttga 4260
gaactaagga caacatgttt atggttagaa cacagaagag aataagagca cagctcagct 4320
ggaagaaaca aagtgttctg gggacaagga gccttcttcc ctgcccccat aacagtggcc 4380
agattgaacc tctggtacga cagtcaagtt ggtgctgagt tcaagttgga aagtcacact 4440
ttctaaatca ggatcaaagc aagctggagg ctccctcact cagctcacaa gtcctgtgaa 4500
atcaggaaaa aaatatcagt tagacactga gttcccaggc agccaaaaac caaagatttc 4560
ccaccaccaa agacaaggta tcttggattt ccaagggaac agaatgagaa cttatatctc 4620
tgactggcat ttaaatccta cagccatccc ctctccagca catcctttct ccagggaatg 4680
gtcccagcac ccatgtcagg cactcaccca agtagtcatc catcagagag ccaatagcaa 4740
actgcgagag gaaagggaga aaggatggtg aggtggggcc ccaccccatt ccgagccttc 4800
tgtcatctat tccctgctca tggacacaga gcacagagcc cccaacaact gtggatggca 4860
agaggtcaac agcgcagatg gggaaagagc ttgctccaac cctgatgacc tgacctccac 4920
ccccaaaatc cacagcagca tgcgatgacc tgaaggcggt ctaaatgtca cactgtggcg 4980
agtgtgtatg cccacacatc cacataaata tgttctacaa aagaaacgag aaacccacag 5040
ctgtcagctg tgaatgatga ctttggatta tttataatcc tactacccag gaggctaagg 5100
caggccagtc aagcaagaga ctcacaatgt cattcttgtc tacacgtgtc cctacaatct 5160
tcaagcgtat ctcatcgtcc tgctgaatta caatgtcctg tggaaaggag agagcagggt 5220
catcaagcag actcaggcct ggtcctcatc cctctcacca actcctcctc attcgctcac 5280
ctcatccatg gtcttgtaac aaggggggtt cgaatttgga tcaaactcca tctctgaagg 5340
gatggactag aaggaaattg acacaaaggt tagcatttca aatagctgca tcaaaggatg 5400
agagtcaggg gctggtttct cctcctcggc ctcaccccac acgcccagac tcacgtgtcg 5460
agagatgaag caggacatgg gcccaatttc tgtgaaaagt ccaacctaga aggaaaatga 5520
ccgtgcttca aacgctctga agcatcttta cctgatttct aggcacatta ttcatgtttc 5580
ttaacagttt aaattgtagc atttgtttta atttctctct gtgtaatctt tcatttcttt 5640
acatttttgt tcttcattat ttttatgtgt aagaatattc tgacctcaca tgtgcctgtg 5700
caccatgtac ctgcagtgcc catggaagcc aggagagggt attgggaccc tgcagaatta 5760
ggagttacag attattgtga gccattggct gggtgctggg agtcaaaccc aggtcttata 5820
gaaccagtag gtgctctaaa ccactgagct atagacccct tagcctttaa gaaacttaat 5880
ttctgaggct agagagatag ctcagtggtt aagagcactg actgctcttc catgggtcct 5940
gagttcaatt cccagcaacc acatggtggc tcacaaccat ctgtaatgag atctgatgcc 6000
ctcttctggt gtgtctgaag agagctacag aggagtgtgt ataataaata aatcaggggc 6060
tagagagatg gctcagcggt taagagcact gattgctctt ccaatgatca tgagttcaat 6120
tctcagcaat cacatagtgg ctcataatca tctgtaatgg gatctgatgc cctcttctga 6180
tgtgtctgaa gacaacagtg tactcatata aataaaaata aacaaacaaa ccttaaaaaa 6240
aaaaaaaaaa aaaagaaaag aaaacccaaa actaagataa aataaaataa atcttgacaa 6300
ccacaaaagg cttaaggcaa ctaataagtg gactgggaat tgaactctca ccttaggaaa 6360
taccccgtaa cctttctttt ttttttttt ttttttcttc tttttttcg gagctgagga 6420

ccgaacccag gaccttgcac ttcctaggca agcgctctac cactgagcca aatccccaac 6480
cccataacct ttctataaat aatactctta ccttgttgac ctgagtgacc acagcatcca 6540
ccacttcccc tttaaagggc cggaaaacaa tagctttgta tttcactgga taaagaacaa 6600
aacctcggcc cggctggatc acaccagcac caatattgtc gatggtagtg acagcaatca 6660
caaagccata tctgcaggaa agatgaaaaa agacagctac tgtatgtgaa gagcctctaa 6720
aaagccacca gcaatagtct gcgtgtgatg gaacctctgc tcgaacagct cgatgaccaa 6780
gaagagacag aactcagatt agcacctgaa atattaaatg gtgctctcac aattgtacag 6840
taaatgccca agaaggcaca gatatgctga catacaccta ttctctcagt accaggactt 6900
gccaggtcag tggtgagaca ggtctttcga aaaccacaaa tcagacagaa aattgtgacg 6960
aaaaccttta atcccagcac tcagtggcag gcagttctct gaattagagg ccagcttggt 7020
ccacatagtg aggccatctc gaaacccaaa acatttgcat aataacggtc tgatctcgca 7080
taagcgaaga aaatttggtt tagcaacctt ttagaaggcc caaaataggc aaaaactggc 7140
tgcttcggat gcctggagtg gtgaaagagt tcctcagagt aagtaacaag ccctgactga 7200
aggagtgaag tagaggttac agagtagcgt tattgtgcct gcattcagca gacgacactg 7260
tgaatcagac acttacttcc cagtgcaggt cccctccacc tcggtgaaca gcttctgctt 7320
caccgtgttg agcaagttgg gaccaaagta gcgtgggtgc agtaggatct cgtgctccag 7380
ggaaatctgc agagaaagga agatgaagac tccgccagcc acactgagaa caggaggcga 7440
cccgtcggcc ctccaggctc ctcctgtccc tgccctcacc gctaccccgc gtccagctca 7500
catgataaaa catcttctgc agaagcttgg accgcagagg ccagaactcc ccaggaaggg 7560
acctcgccgg aagcactagc agaagtccca ccaagtctcc gcagtcgctt ccgcagattt 7620
gagtcttaac gccatgggcg gggaaacgtg aagccccgcc cctcaggcct tcccatcagc 7680
gctcatcagc acagccagga ttacacagaa aaacccggtc tcgaaaaacc ttaaaaaaaa 7740
aaaaaaaaaa aaaaaaaaaa ggttaagagg tctggcttgt cgccacatgc ctttaaaccc 7800
agccgtggca gacagatctc taaattcaag gctaagccac atctacaaag tgagttccag 7860
gataaccaag actgtgtata caaaccctat aaaaaaattt gtttttgggg ttggggattt 7920
ggctcagagg tagagcgctt gcctagcaac cgcaaggccc tgggttcggt ccccagctcc 7980
gaaaaagaga aaaaaaaatt gtttttaaa ttttatttta ggggctgaag aattagctca 8040
gtccttaaga gcacttgcca gcccccacag gatagctcac aatcttatct gtaactacag 8100
ttcagagaga actgacaccc tcttctggct tcattcagca ctgcatgcta gtggtacaca 8160
gacataatgc aggcagaaca ccgatgcttg taaaataaaa ataaagatga ggtagttggg 8220
gagattgctc aacagttaaa atcaatggtt gctcctccga aggatccagg tttgattcct 8280
agaacaaaca tggtaactca actagctata tttcaatcct aggggatcca gtgccatctg 8340
gggcctccat ggacacttct cccttgtggt gaacaggcat agatacagcc agaacattca 8400
tacatataaa ataaaaataa aggtttttac acataaaata aaaataaagc tctcgaagag 8460
gacctgagtt caattactaa cactgcaccc gaggtctcac aactccagct cgaaggggat 8520
ctgaaacttt ctcattgcct caggaggtac cagcacttgt gggcttgtac tcacatacag 8580
ataacagaca tcattgagta cacctaatta agaagaagtc acttggaagt gtggcacacg 8640
ccttaaatcc caatattcag gaacaaaagg caggtgggtc ttcaagttca aggccaacct 8700
ggtctacagc atgagttcca gaacagccag ggatacatta aaaatgaagg tgtcggggtt 8760
ggggatttag ctcagcggta gagcgcttgc ctagcaagtg caaggccctg ggttcggtcc 8820
ccagctccgg aaaaaaaaaa tgaaagtgtc ttgttaaaca aaacaaaaag acaacaagca 8880
aaaagattac ttatgtgggc acgcactggg cttactttct tttctatttg agggacggtt 8940
ttattatgtg accatggatg acctgagatt tgctttgtag agtaagcttg ccctgaactt 9000
ttttttcccc tggagctgag gacctaaccc agggtggtgg gtttataggc aagcgctcta 9060
ccactgagct aaatccccaa ccccccaccc ttcactttta ggataccaag cagactcctt 9120
ggtctaggaa caacctcagc ctcgggactt ttttttttt tacactaggt tccgctcctg 9180
ttagactaga ctcttccacc cctcagtaca ttatactact aggacactag gacaaaccat 9240
agcaaatctg tcacagcacc agtgacagcc ctaagcctga ctccatcttt tcttttcttt 9300
ttttaaatat tatttatttt atgtatatga gtacactgtc attgttctca gacacaccag 9360
aagagggcat cggatcccat tacagatggt tgtgagccac catgtggttg ctgggaattg 9420
aactcaggac ctctgggaga gcagtcagtg ctcttaaccg ctgagccatc tctccagccc 9480
ccactgaaga cttttgatct ggttaccatc tgaccccaat ctcttgcaaa agcctccctt 9540
cctccttcga agaaactctt acgtctttta tgtccttggc ccatgacttt gtattaaatc 9600
agcaacaatg acaagacctg tatgtctctc cctagctcag aagacagatc cttgttcctt 9660
gttaatgttt tgattttctg gtctgtccgt ggggacagtc tgatagttct aagactgata 9720
gctttgaggg attctaaact cacaacaggg ctattgttac cgatgggcac aatacaaggc 9780
tgccattgct ttggagtggg accattatct tgacagaaag aattaccata aaccctagct 9840
gtgattgctc cgggagtcca tgctaatgaa acactgccca cggccttcag gaaacttctc 9900
acagagtgct gcctcttgga atgactgtgt gaactctcta ctgtccacct gcagcagcca 9960
taccgaaata cagtctaata acctctcaac ttctgcattc ttagtcttgg tgaactcttt 10020

cgcctccaat gtcatgacct ttcaaagtca cctcacatag cagtctgcag cgagaacagg 10080
taattcaggg gctggggatt tagctcagtg gtagagcgct tacctaggaa gcgcaaggcc 10140
ctgggttcgg tccccagctc cggaaaaaaa aaagaaccaa aaaaaaaaaa aaaagagaga 10200
acaggtaatt cagctaagac tggtgacaca agtgtaattt taatacttag gaggttgagg 10260
cgagcgcatc tggagtttgg attaacctgg actccatagt gaatattggg ctagcttagg 10320
ctacataagc aagcctctct ctctctctgt ctgtgtctct gtctctatct ctgtctctgt 10380
ctctcaacca caaaagagag aacggaaaaa aggaagaaat taagagaaag aaaaacaaaa 10440
gaaatttctc taagcaaagc atatttattt atttatttat tgtttttcaa gacagtgttt 10500
gtctatgtag cattggctgt cctagaacaa tcgttgtagg ccaagctggc cttgaactca 10560
taggcctgcc tttgccttcc aaatactgga attgaagcct tgtggcagca ctgcccagcg 10620
acacctggaa ttttttaaaa tttatttatt tatttattta tttatttatt tatttattta 10680
tttatacact ccagatatta ttccccctctt ggtccatccc ccaactgttc cacatgtcat 10740
accttccccc acccccccagt ctccacaagg atgtctccaa cccacccacc ctctctaatt 10800
tttattgtac attcctcttt ctttcttttt ttttttttct ttttttgggt ctttttttcc 10860
ggagctgggg accgaaccca gggccttgcg cttcctaggt aagcgctcta ccactgagct 10920
aagtccccag cccctacatt cctctttcta acttctttgg cacagcatct tggagggtgc 10980
aaatcaagag acagcttttc ttttcttttg tgatgccaac tttcaagcat ttacattttg 11040
ggttgggttg ggttgtgatt tttttttttgt cttcgaaatc tgcatttttt ttctttcctt 11100
ttttttttct tttcagagct ggggacctaa cccagggcct tgcgcttgct aggcaagcgc 11160
taaaacactg agctaaatcc ccaactccta aatctgtatt tttatttgta acaactgtat 11220
ttctttttct atatccttta actctggagt tttcatttct tccctcctgc ccccataact 11280
atagtcacag ttaaactgtg ttatcaggaa attcaggaaa ggtgccttga tgaacagatc 11340
aggacaggag ctctgaccag tagtcactgt cttcctcttc cttagaataa gtaaaaatga 11400
aaccaaccaa actttcttct ctttctttct ttctttttttt ttttttttct tttgacgtgt 11460
ctcctgtgct ttgtcagtag catgaatttc attttttttt ttttttttttg gtttaaaaaa 11520
ggcaacctca aaacccaaac ctctttattg tcagggaaaa gggaactgca atgacttgaa 11580
tttgaggatg tgggtactgc ctcactcaca cacattctca gactgtgtga tgccctgcac 11640
acctgtagaa cagttacatg tatgtgcacc tgtatttgtg cctattagaa caggacctgc 11700
agggaagtct acctaacccg aaactcccca gtggaacagg cagggtgggt ggagggctgg 11760
gacagacaag gactcggcgc acacatacag taccacataa aacagtacag tgaaggtggg 11820
ctcaagaccc aggcagcttc cttcttttca gtaacagggc ccaggctgcc tttcacagca 11880
caaccccaca gctgaaccca ggtctctctt caaaaccagc catctcactc agcagcgcca 11940
aaggaaaagt agatgtagcc tccctgcaga gaaacagctt ttcttgttgt ttttaaataa 12000
gtaagtaaat ccaccatccc tctgctccaa gatggctgat gttacacttt tctaccagat 12060
tggtgcctgc ttagctcact aacagtgctg cctccgccgg ctgtggcaga gtttccagtg 12120
tggtgttttc aagcctcacc cactcatcct ctcattccca aacattcagt gccctcctca 12180
cttaggggtt ttcgaaatgt ttaaattttg tattacttta aatatatatt tgttttattt 12240
tcatgcgtct gtgtgtatgc ttgtgagttt cacacatgct gtgtgtgcac aggaatctat 12300
gaaagccaga acagggcatc agatctacag gaagaaacca agtgtccaaa aagggaagaa 12360
acgagatcca tctgcctctg tggtgctgga attgaaggtg tacatcacta caaccaccgg 12420
ggatgggtat gtatgtatat atatatatat atatatatgt gtgtgtgtgt gtgtgtgtgt 12480
gtgtgtgtgt gtgtaagggt gtcagacctt ctggaactgg agttagacag ttgtgagctg 12540
ccatgtgggt gctgggaatg aaccctggcc ctctagaaga acagctgatg ctcttaactg 12600
ctgagccatc tctccggccc cttatttttt atttgtgtga gagagtggag gtcaggggac 12660
aaactgagag acttggttct ctccttctgc catgtgaatg ccagggattg aatgcaggtt 12720
gttagccttg gcagtgagtg ctttccccgc agggccatct tgtcagctct ttgattacat 12780
tgtaaaccct ggcactgtgt tatttgctgg gaaatgtttt tagttgtggg atgactcagc 12840
tttagcacat gcctttaatc cgagagcttt ctgcttgtat attgtaagca ggattaaata 12900
aagtcaaatc ttaggtcaag agatggagca agcaaagagt tgacaggaaa tgaacataga 12960
attattgaga aaaaacatat aggggttggg gatttggctc agtggtagag cgcttaccta 13020
ggaagcgcaa ggtcctgggt tcggtcccca gcaccggaaa aaaaaaaaaa aaacatatag 13080
agtaaggggg agtcgggttt aaactgtaca gaagtctcca tgtcttattt ataatgtaag 13140
caggtctgca aaagcctgcc gttgtgtcct gttgcctttc ttctggcagt gaagaggatc 13200
agttttgaag gcaggcagaa taggtgcgga gagatggctt ggcagttaag agtatatgct 13260
gctcttgcag aggacctgca tgcaactgcc agcacccaca cagtggttcg tagctacctg 13320
taacttcgtt ccatgggatc cgatgccttc ttctgacctc tgagagcacc gaccatgcac 13380
atagtgcatg aacatacatg cgggtgaaag actcacataa agtaaagtga atacatctaa 13440
ttaaaataaa gaccacttta tgggctggag agatggctca gcggttaaga gcactgactg 13500
ctcttcctga ggttctgagt taaattccca gcaacagatg gtggctcaca accatctgta 13560
atgagatgtg atcccctctt cctggtgtgt gtgaagacag ctcccagtgt actcaataca 13620

ccccctcccct ccctgaatgg gaaaaaaaaa aaaaaagcct ggggttgggg atttggctca 13680
gtggtaaaaa aaatacctat gaagcacaag gtcctgggtt cggtccccag ccccgaaaaa 13740
aaaaaagaaa aaaaaaaaag accactttac acgtaaaaaa taaaagatgg gcagattagg 13800
ccctgtacta aacaggattc tttagaggaa ctgaaatgag tgtgtgtgtg tgtgtattca 13860
ttttttttaa agatttattt attttatgta tatgaagaca ctgttgctat cttcagacac 13920
accagaagag ggcatcagat cgccttaaag atggctgtga gccatcatgt gggtactggg 13980
atttgaactc aggacctctg gaaaagcagc cccgtgtgta ctcattttat atatgaaata 14040
tatacacaca tacacacgtg tgtgttagat tggcttcctt gatggtccag gtaattcatc 14100
aatgagaatc agtagttact cagtctacaa agctgaatgt cgcgacaatt ctgatctggc 14160
actttagacc tagaggactc ctggagagtc tacatgggaa tcctggacat ctggagatcc 14220
tacacaaaat ccctgccatt cccaccaagg gcagctgtga atggctgtgg ggaaacattc 14280
cttaagctaa gcctgaagac ctaaatccaa tccctggaac ccgtgtggta gatggagaga 14340
actgacttct gtttcatctg acctccactg gtgtagccgc acatacatgc atgcaaaaca 14400
gtcgtgataa ataaatctaa aaaaagttag agcacctgtc aatagataag tataacttaa 14460
aagtgaaacg aagcctatgc ttttaaatcg taaggactgg gaggcagtca ggcacatatc 14520
caggttccag accagcctga tgtatgtaat gagttccaga ccaattaggg ctatatcatg 14580
agaccatgtc tcaaaaccaa aaaacaaaag aaaagaagaa aaaagaagaa catcaagtca 14640
agcatgataa atcacataat cctataatcc taataatggg gaggctgaag cagaatggcc 14700
atgcctttga gcttagcctg ggcaggacaa ccaactgggc tacacaggaa tacataatac 14760
actgccatta gaaaaaaaag catggctgac ttcgtcactg ctagttgggg cttgggttta 14820
ggtcttttca aacactaagc aatttggttc ggagctagtt tttgagccct ctgcccaccg 14880
ccatggagga gccaccagag aaagtcgacc cagttgtagt cccagaagct cctcaaatga 14940
aagatgacga ggacgcgtcc gctgattcag aagtcctaca accagaaaca ctagtaaagg 15000
tcatgaaaac gctaaccctg aaccccagtg ccgaacggtc agcacgtcat cacagcctca 15060
gtgtccggat tcagggcagg cctgtggaga acagatgtga aggaatcttg agggaagttc 15120
aaagcctttc ccaagagaag ggtccacaca ttgttggtgg tgctgagaga tgccggagca 15180
aggatgagaa gatttgttgg gattgagcag agacaacaaa ggcttgaagg aaatgagtag 15240
gaagggaaga gtgagccact cagacgtctc tgtgcttcct gccatcgtca gagatggaat 15300
ccgtctaaga aagctaaaat ccggaagaat taggacagtc ggtttatgta cactatcctt 15360
gctgctcatg atgccatgca gcagacctga aaactggttt ttgtttttta aagataaaac 15420
ttttcctggt gctggggaac acgtcttgtt aacctttcaa ctatgtagga agtgtgacgg 15480
ttgaattcat gtgaaggact taaatttacc caaagtatgg agaatgagtt aaagcattct 15540
gtgaacttta gaagcctcaa gctgggggct gagaaacact gtaactagaa tttggggtag 15600
tttgctttag aaggtaattg gaataggcct ttggattttc tagtttgcag aaatgtgtaa 15660
taaaggcaat tttgttatct ttaacaaaca cacagaacag attagaatga gccattggag 15720
atgggggggtt gtttttacag gagcacgtgt gggtgcgcac actcctgatg tccagagttc 15780
aatgtgtgtt gctaaccctg tttatttctg ctccaggcag ggtctccatg agcctagcca 15840
gtctctcagc tcgtggtcct gcctcccttg ttgcccaagt tttgacgcca caggcttgac 15900
agcaagatct agaaaatgct tgtcttgatt ttgtgtttgt tcatgctgtg taataaaaag 15960
aacaattggt tgatgtattc ctaaatttaa aaaaaaaaaa aaaagcacca ggtgatggtg 16020
gctcacccct ttaatcccaa cgctcagaag gcagagacgg gtggatctct gaattcatgg 16080
ccagccaggg ctacacagca aaaccctgtc ttgagaaaag agacttgtgg ggttggggat 16140
ttggctcagt ggtagagcgc ttgctaccct gggttcggtc cccagctccg aaaaaaagaa 16200
tagaaaaaaa aagaaaaaag aaaaaagaga ctcgtaagca agcaaagctt ggtagtctaa 16260
agaaatgaga aatccttaga gctaccttag agctagaaaa ggcaggacat ttcaggcaga 16320
gagctggtac ggcaagccca aaggctcagg gcccggttta taccatgtaa ggttatcctg 16380
aggggctgga gaagaaatgc acagcaacac taacacgtca tactgtctgg ccaagtatca 16440
actaccatgg ctttatagat cctgctcttg aggaaagggg tagatcaagg ggtaatcaag 16500
gatagattac ccctttggca ataggacgga gggtggctag atccctccaa cagtgtgagt 16560
aggtccaaga gtatgaatca tctatggctc ctaataaaca ctgctaggct aatttaccat 16620
tgagctacat cccaaatatc aaaagttgtt ttgggagagg ggatgcatgg gagacaggtt 16680
ctaatgtgaa tcttactgtc ctggaactcc ctccatagac cgtgctggct ttgaacttac 16740
agagttctca caggagactt aactgccttt gtctccaaag tgctgggatc aaaggcgtgc 16800
accaccacat ccagccttat tttaattaat tataatcaat tattaattaa ttataatcat 16860
aattttaatt agttttgatc atatttatcg atgtattatg gaagtggggc cttgcatgtc 16920
attcttgttg gtaaaggtca ggagataaaa atactacttg gtaaataaga aaacccaagt 16980
taagaaagat ggagaaaaaa aaacaatatt atagttaaaa aaaaaaaaac ttggtctttt 17040
aaaaataaaa tacaggggggc tggggattta gctcagtggt agagcgctta cctaggaagc 17100
acaaggccct gggttcggtc cccagctctg aaaaaaagaa ccaaaaaaaa aaaaagaaaa 17160
aagaaaatac agggctggag agatgctcag cggctaagag cactgactgc tcttccagag 17220

gtcctgagtt caattcccag caaccacatg gtggctcaca accatttgta atgggatctg 17280
atgccctctt ctggtgtgtc tgaagacagc tacagtgtac atgaatacat aaataaattc 17340
tttaaaaaaa tgaaaaataa aatacatgtc atatgattta tcaaaaaaaa aatactactt 17400
ggacagggtt ggagatttag ctcagtggcc gagcacttgc ctagcaagtg caagaccctg 17460
ggttcggtcc tcagctctga aaaaaaaaat tactacttgg agaagtaggt tctccccttc 17520
cactcaagtt gtagaaatcc aacttagatg tcaggaggca agctctcgta ccaacggaac 17580
ttaagatttt ggtttttgaa gtcttgtaga gaccaggcta tcctgaaatc aagatttaat 17640
ttacccagct ccaaaaaaaa aaaaaaaaga tttaatttaa agtagctgtt ccatgccttt 17700
gatcccagca ctctggacaa gagaggcaga tgcaggttgg tgtgtgagtt tgagatcagt 17760
ctcaaagctt ggtccacatg gaaagttcta gaacagccaa ggcttcatga gatcgtgtct 17820
caaaacagca aagacagtga cgatgacgtg atgatgatga gcaacataga ctcaagcgtg 17880
ctaggccaaa acaccactag atctgctccc tagcccctga caagtaattt gctaacaaca 17940
tgcatagtgg ttattcttcc aatttctcct tctccttctc cttctcctcc ttctccttct 18000
tcttctgttt atttatttat gtgagtacac tgtagctgtc ctcagacaca ccagaagagg 18060
gcatcggatc tcattacaga tggctgtgag ccaccatgtg gttgctggga tttgaactca 18120
ggacctctgg aagagcagtc agtgctctta gctgctgagc gtctctccag cccccaattt 18180
cttcttttaa aattacataa tcaccactag gtggggtggc acatgcaggc agatctctgt 18240
gggtttgagg tctgcctggt cttggtattg agttccaggt cagccagagc tatattctga 18300
gaccctgtct caaaaagaca gaaatagaag taaaaaagaa aacggaaaat taaaaaacac 18360
agggaggcgg tggtgacaca ctttgatccc agtactgcat ttgggaggca gaggcaggtg 18420
gatctctttg tattacaggc cagcctggtc tacagagaat tccaggacat caagtactat 18480
gcagagaaac tctgtctcaa aacaccaata aacaaacaaa caaacaaaca agtaaaaata 18540
aataaataaa aattaaaaaa ggaaaagaaa aacgaaaaag aaagaagaga ataaaattgt 18600
attgcttatc atgaatgctc caactcgtgt gtttaggtca gaagacaact aacaggaatc 18660
ctttttttctc tggtatcaaa ctcgtgggtc ttaggaatcg aactcacata cttcggttgg 18720
gcggcaagcg attttacccg ctgatccatg acacaggccc tctttaattt ctaaagccct 18780
acatgcgggt ctggacttta ttcacggtgg gtgggtcttc ttcctgtcag tttccgtccg 18840
cagatgtccc cgcccaccag gaaggatctt tcgggctctc gtcggcaccc gtccaccctg 18900
tctccacgtg acacaaacag acagggcact tccgcttccc gtccactctc ctcactcagt 18960
gtctacaccc cccgtccccg ggtccccccgc ccggtgagtt agcgagcgcc gggagggcgg 19020
cgtcgcgggc ggagtcgccc cgggctgacc cttgccgcct tccttcttct caccgcaggt 19080
ccccgcggta gcggaggcgg gcgccatggc ggagctgacg gctctggaga gcctcatcga 19140
gatgggcttt cccaggggac gcgcgtaagg gaacctcccc tctagcctgt ggtgggaggc 19200
cgcgggcctg ccgggcctca ctgtcaccat ggctggtggg cgctattcac ggtgtttctg 19260
ccctcaggga gaaggctctg gccctcacag ggaaccaggg catcgaggct gcgatggact 19320
ggtgagcgac tggcacgggt ggaggaagtt tgggggcctc tgggaaaggc ggcctcaagg 19380
ctaacccccct gccaactttc tctgcccagg cttatggagc atgaagacga ccccgatgtg 19440
gacgagcctc tagagactcc tctcagccat atcctgggac gagaacccac gccctcagag 19500
caagttggtc ctgaaggtcc tgactgggag acatcttgtg attctagcta tctagtgagg 19560
gcctgaggaa accagaatgc tttcactata aataataata ctagttgctt gtttgtagga 19620
tctgggtctg ctgctggaga aagcaaaccc gttttgactg aagaggagag gcaagaacag 19680
actaagaggt aactgtgcaa gttcagtgtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg 19740
tgtgtgtgtg tgtgtgtgtg tgtgtgtttt gtttggagcc tgcctcactc ctgtccaggc 19800
tgaactctgg atcctgctgc ctcagcctcc agagtgctgg gattacaggt cttcaccact 19860
gtgccctgta ttatttttttg agacagggtc tagctgtgta cctcaggctg gcctggaacc 19920
taggctaaat gcaacgccac attcttctga gtgttgtgat caccatagct agcccattaa 19980
cacactttcc caagggtcat gggtcatctt cctttcttct caaatacaaa cacaagtcag 20040
gacagacctg gcctttccag ttagtggatg ttgggggagt caccaggaaa catctcatac 20100
agcacaagac tgtctaaact cctgcgtggc tgcagactcc cctgaaatcc caattctctg 20160
gcccctactt tgcaagtgca gggactgtag gtattcacca ccgtgcctgg ctcttgtctg 20220
ccctttttaa aaaaacaaaa aacaaaaagg ccccatgcat aatgtatgtg ctctaacact 20280
gagctacctt ttttttttttc ttttggtttt ggttttgttt ttttcaagcc agagtctgtc 20340
tctatccccg ctgtccttaa actggctcta tagacctggc tggactgaaa ctcaagaaat 20400
ccacctgcct ctgccttctg agcactgagg ggtgcactgt caccacctag cttgcccttt 20460
ttatgttact gtcttggctt tgtttttttt tttcttttttt ttttcttttt tttggagctg 20520
gggaccgaac ccagggcctt gtgcttgcta ggtaagcgct ctaccatcga gctaaacccc 20580
caaccgggct ttgttttctt ttatctgtct tggaacacaa tcctttaatc tgttaattct 20640
ctgtttaaac tcaccttccc actccatatc cagcttcagc tttttcttct ctgcaaaaca 20700
gaatgttgga acttgtggcg cagaagcagc gggaacgtga agaaagagag gagcgagaag 20760
ctttagaacg agagaagcag cggaggagac aagggcaaga gctgtcagct gcacgacaga 20820

aactacagga agatgagata cgccgggctg ctgaggagcg caggagggag aaggctgaag 20880
agctagctgc caggtctgaa gactcatagg tcactaacgg aggaagaaat gaagacttgc 20940
cttgcccatg tctgacctat cttcctcctg tctctcttct agacaaaggg ggcgagagaa 21000
aattgaaagg gacaaagcag agagagccca gaaggtgggt gatgaggaag tctgtgggta 21060
taatggagta ggggggtgcg gggccgtggg ggcgtgcggg cgaggggggg gggggggggc 21120
gcgggtgggc gggggacgga gaggggggcgg ggcaggcggg gggggggcgc ggaggtgcgg 21180
ggggtttctc acgggtggag gaggggcggg gggggggga ggtggggtcg tgcggttgat 21240
ggtgcggcgg ggttgataga cgccgtgcga gttggcggcg gggggcgggc ggtggagggg 21300
cggctgagac gggggggcagg gggtgcgttg ggggtggagg gcagtggggc gggtgcggtt 21360
gctggcgcgg gcggcgcgga acggtagccg gggcgcgcgg gagcgcgcgc gcgcgctcgc 21420
gaggggggtgc ggccggagag gggtgcggag gtccggtgag ctgactgacg atgcccggta 21480
gctgctggcg cgtgggcgac gcgtcatgcc gtggcgcggg tggggcgggc gcggtgcatg 21540
cgcgagcgtc ctcggtctgg cgaccgtagc gcgctctctg tcggggccgc ggaccggcgg 21600
tgagggtcgg gggcgggggt gcgtggtggc tggaaggcga gtggtgtcgg gtagagggcg 21660
gcgatagggg gcgcgcgtga tgtgatat 21688

<210> 10
<211> 17
<212> PRT
<213> Mus musculus

<400> 10
Ala Ser Gly Gly Gln Pro Pro Asn Tyr Glu Arg Ile Lys Glu Glu Tyr
1 5 10 15

Glu

<210> 11
<211> 16
<212> PRT
<213> Mus musculus

<400> 11
Arg Asp Arg Lys Met Val Gly Asp Val Thr Gly Ala Gln Ala Tyr Ala
1 5 10 15

<210> 12
<211> 16
<212> PRT
<213> Mus musculus

<400> 12
Met Glu Glu Pro Ser Glu Lys Val Asp Pro Met Lys Asp Pro Glu Thr
1 5 10 15

<210> 13
<211> 17
<212> PRT
<213> Mus musculus

<400> 13
Cys His Tyr Gln Arg Trp Asp Pro Ser Glu Asn Ala Lys Ile Gly Lys
1 5 10 15

Asn

<210> 14
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> AL1 PCR Primer

<400> 14
attggatcca ggccgctctg gacaaaatat gaatcctttt ttttttttt ttttttttt 60

<210> 15
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> BMP4 5' Primer

<400> 15
gccatacctt gacccgcaga ag 22

<210> 16
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> BMP4 3' Primer

<400> 16
aaatggcact cagttcagtg gg 22

<210> 17
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> TNAP 5' Pimer

<400> 17
cccaaagcac cttatttttc tacc 24

<210> 18
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> TNAP 3' Primer

<400> 18
ttggcgagtc tctgcaattg g 21

<210> 19
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oct4 5' Primer

<400> 19
cactctactc agtccctttt c 21

<210> 20
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Oct4 3' Primer

<400> 20
tgtgtcccag tctttattta ag 22

<210> 21
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Hoxb1 5' Primer

<400> 21
aactcatcag aggtcgaagg a 21

<210> 22
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Hoxb1 3' Primer

<400> 22
cggtgctatt gtaaggtctg c 21

<210> 23
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> GCR1 5' Primer

<400> 23
ctactccgtg aagtctagg 19

<210> 24
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> GCR1 3' Primer

<400> 24
aatgagtgtt acacctgcgt 20

<210> 25
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> GCR1 5' Primer

<400> 25
gccattcaga tgtctctgca c 21

<210> 26
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> GCR1 3' Primer

<400> 26
ctcacagctt gaggcttcta a 21